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Anglický jazyk a specifické poruchy učení
Případová studie žáka s dyslexií

English language and specific learning difficulties
Case study of a student with dyslexia

Bakalářská práce: 12–FP–KAJ–013

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Vedoucí práce: Mgr. František Tůma, Ph.D.
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Cíl: Cílem případové studie je navrhnout metody a pomůcky, které zlepší osvojovaní anglického jazyka u dětí se specifickými poruchami učení (SPU) zejména v oblasti dílčích jazykových dovedností.

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CROMBIE, Margaret. *Specific Learning Difficultuies*. Northumberland : Ann Arbor Publishers Ltd, 1997. 79 s.

OTT, Philomena. *How to detect and manage dyslexia*. Oxford : Heinemann Educational Publishers, 1997. 408 s.

PEER, Lidsay, et al. *Dyslexia in primary school : Assessment into action*. London : The British Dyslexia Association, 2000. 105 s.

POLLOCK, Joy; WALLER, Elisabeth. *Day-to-day dyslexia in the classroom*. London : RoutledgeFalmer, 2001. 185 s.

ZELINKOVÁ, Olga. *Cizí jazyky a specifické poruchy učení*. Havlíčkův Brod : Tobiáš, 2006. 167 s.

ZELINKOVÁ, Olga. *Poruchy učení*. Praha : Portál, 2003. 263 s.

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Případová studie žáka s dyslexií

Jméno a příjmení autora: Mgr. Andrea Pozdníčková

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Anotace

Tato bakalářská práce se zabývá implementací individualizovaných metod a pomůcek ve výuce anglického jazyka u žáka s dyslexií na prvním stupni základní školy. Teoretická část charakterizuje dyslexii a zaměřuje se na terminologii, příčiny a deficity spojené s dyslexií. Zároveň uvádí dopady dyslexie na studium angličtiny a zásady pro výuku cizího jazyka u žáků s dyslexií.

Tato teoretická zjištění jsou aplikována v individualizované péči na základě počáteční diagnostiky. Longitudinální případová studie jako výzkumná metoda je použita v praktické části. Intervence zohledňující speciální vzdělávací potřeby, stejně tak jako slabé a silné stránky žáka byla realizována jednou týdně po dobu šesti měsíců. Výsledky závěrečných testů a strukturovaných rozhovorů ukazují, že individualizace metod může přispět ke zlepšení v ortografickém a fonologickém uvědomění, stejně tak jako ve sluchové diferenciaci a snížit úzkost při vyjadřování v anglickém jazyce.

Klíčová slova: výuka angličtiny u dětí mladšího školního věku, dyslexie, speciální vzdělávací potřeby, individualizace, multisenzoriální vyučování, TPR

Abstract

This bachelor thesis deals with implementation of individualised methods and aids to teaching English as a foreign language to a primary school student with dyslexia. The theoretical part of the thesis focuses on terminological issues, characteristics and causes along with deficits associated with dyslexia. This part further highlights the effects of dyslexia on the learning of English and principles of foreign language teaching to dyslexic learners.

These theoretical findings are applied in the individualised treatment based on preliminary diagnosis. The longitudinal single case study is used as a research method in the practical part. The intervention, respecting special educational needs, weaknesses and strengths of the student, was realised once a week for six months. The post-intervention results, including the post-tests and the structured interviews, show that the individualisation of methods can contribute to an improvement in orthographic and phonological awareness as well as auditory discrimination and can lead to the decrease of student's language anxiety.

Key words: teaching English to primary students, dyslexia, special educational needs, individualisation, case study, multisensory instruction, TPR

Contents

List of Abbreviations

ADD	Attention Deficit Disorders
ADHD	Attention Deficit Hyperactivity Disorders
CEFR	Common European Framework of Reference for languages
FEP BE	Framework Education Programme for Basic Education
FL	Foreign Language
ICD	International Classification of Diseases and related problems
IDA	International Dyslexia Association
IPA	International Phonetic Alphabet
LD	Learning Disabilities
L1	first language, native language
L2	second language
MSL	Multisensory Structured Learning
MSML	Multisensory Structured Metacognitive Language instruction
SLD	Specific Learning Disabilities
SpLD	Specific Learning Difficulties
TPR	Total Physical Response
VAKT	Visual-Auditory-Kinaesthetic-Tactile approach
YLE	Young Learners English

Chapter 1

Introduction

In our fast developing and multicultural world, the ability to communicate effectively in a foreign language is more important than ever. Not only does it enhance and enrich cognitive development and intellectual growth, but it is also beneficial in both professional and personal life. Viewed as important and advantageous, foreign language instruction has become an integral and compulsory part of the educational system in the Czech Republic. Apparently, the fulfillment of this requirement may be problematic for many students with special educational needs[1] and challenging for foreign language teachers as in every classroom there will be an entire spectrum of students with various linguistic strengths and weaknesses.

The necessity to create equal educational opportunities for all children, thus providing conditions for their successful education and satisfying their special

[1] According to FEP BE (2007, 115) students with special educational needs include children with health disabilities (physical disabilities, visual and auditory impairments, mental disabilities, autism, speech defects, multiple disabilities and developmental disorders affecting learning or behavior), children with health disadvantages (physical weakness, long-term illness and mild health disorders leading to learning and behavioral problems) and socially-disadvantaged children.

educational needs is emphasised in the Framework Education Programme for Basic Education (FEP BE 2007). As stated by FEP BE (2007, 115) the education of pupils with health disabilities and health disadvantages must include a combination of special education and alternative methods along with modified methods used when teaching the regular population. Therefore, educational professionals, including teachers of English as a second language, face the task of meeting all individual educational needs of children with specific learning difficulties (SpLD) learning English as a foreign language (FL).

Although there are a large number of publications concerning SpLD, very few of them are concerned with the principles of FL teaching of children with dyslexia. Amongst experts looking more closely at this issue belongs the Czech author Olga Zelinková (2005) and international authors such as Joanna Nijakowska (2010), Elke Schneider and Margaret Crombie (2003). However, none of them is specifically focused on the characteristics of Czech dyslexics learning English as a FL. Therefore, the aim of this work is to provide the reader with findings obtained from the case study of a student with dyslexia realised by the author concerning supportive measures enabling the development of a pupil's language potential and overcoming impairments associated with dyslexia. In addition to this, the purpose of this work is to provide a overview of the current research in the field of dyslexia along with the practical application of these theoretical findings in the case study in the light of the research questions, namely: How does the multisensory structured and sequential instruction improve dyslexic children's communicative competence in English? How does individualisation of methods and approaches based on diagnosis

of special needs, weaknesses and strengths of a dyslexic child lead to overcoming of deficits and impairments associated with dyslexia?

Terminological issues, characteristics and the causes of dyslexia along with the deficits and impairments associated with dyslexia are covered in the theoretical part. Weaknesses and deficits such as phonological, auditory, visual, automation, language and speech as well as impaired concentration ability, emotional-motivational disorders and other common problems in the mother tongue may influence negatively the acquisition of the English language. This issue and the principles of FL teaching to dyslexic children are also referred to in the theoretical part.

The practical part is concerned with an individualised treatment based on a preliminary diagnosis, describes the pre-intervention and post-intervention methods of data collection along with the results of the treatment. The appendices, which were used in the practical part, comprise sample multisensory activities that are aimed on the improvement of phonological and orthographic awareness as well as auditory discrimination.

The challenge for foreign language teachers is searching for the best practices to enable feelings of success, as children with dyslexia frequently experience failure in their educational process leading to frustration and discouragement. They should be aware of and be sensitive to problems experienced by dyslexic children, give them opportunities that will help them develop a positive attitude towards foreign language learning as well as lifelong learning, and thus facilitate their social integration.

Chapter 2

Theoretical Part

2.1 Terminology

2.1.1 Terminological issues

This work concerns a Specific Learning Difficulties (SpLD). Firstly, it is crucial to ensure definitional clarity to understand the described phenomena. The World Health Organisation (1993, 241-250) in the International Classification of Diseases and Related Health Problems (the ICD-10) classifies it as follows:

F81 Specific developmental disorders of scholastic skills Disorders in which the normal patterns of skill acquisition are disturbed from the early stages of development. This is not simply a consequence of a lack of opportunity to learn, it is not solely a result of mental retardation, and it is not due to any form of acquired brain trauma or disease.

F81.0 Specific reading disorders (Developmental dyslexia)

F81.1 Specific spelling disorders

F81.2 Specific disorder of arithmetical skills

F81.3 Mixed disorder of scholastic skills

F81.8 Other developmental disorders of scholastic skills

F81.9 Developmental disorder of scholastic skills

Specific developmental disorders of scholastic skills are currently being researched worldwide and many diverse terms are used in particular countries. In the UK, they are referred to as specific learning difficulties (SpLD) and The International Dyslexia Association (IDA) based in the USA uses the term specific learning disabilities (SLD) or dyslexia (Bartoňová 2007, 136). In the Czech Republic the concept specific learning disorders (Specifické poruchy učení, SPU) according to Zelinková (2005, 4) includes dyslexia (specific reading disorders), dysorthography (specific spelling disorders) and dysgraphia (specific difficulties in acquiring the appropriate spelling and grammatical level of writing), dyscalculia (specific disorder of arithmetical skills) and dyspraxia (specific developmental disorder of motor function). It implies that dyslexia can only be understood as a narrow concept, expressing only a specific reading disorder as it is in Czech terminology or as specific learning disorders in general as it is often used in English-written specialized publications. The terms dyslexia, specific learning difficulties (SpLD), learning disabilities (LD), specific learning disabilities (SLD) as well as specific learning disorders, are closely related

and in the theoretical part they are used in the sense that they represent a specific language-based disorder which is a combination of abilities and difficulties that affect the learning process in one or more of reading, spelling and writing (Reid, Wearmouth 2002, 86).

2.1.2 Characteristics of dyslexia

Definitions of dyslexia are many and varied. Although researches have been working on dyslexia for more than a hundred years now, a strong and broadly shared consensus of how to define dyslexia has still not been reached. One of the reasons is that we cannot in any simple way divide the population into those who are dyslexic and those who are not, so it would seem unlikely that there will exist any symptoms or signs which will qualitatively distinguish dyslexics from non-dyslexics (Tønnessen 1997, 78-92). Moreover, dyslexia is a disorder manifested by a series of indistinct symptoms which can vary from person to person. In spite of these facts, clear criteria are needed to explore causes and ensure early identification of dyslexia, as well as, to have more effective teaching approaches and provide systematic support to children with specific learning difficulties.

The International Dyslexia Association defines dyslexia as:

> a specific learning disability that is neurological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological components of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge (Lyon, Shaywitz, Shaywitz 2003, 1-14).

Firstly, this definition implies that dyslexia is a specific learning disability when the word specific signals that there are particular learning difficulties which affect certain cognitive skills such as memory, sequencing or perception, rather than a general learning difficulty which affects most aspects of learning (Ott 1997, 382). The cognitive characteristics of dyslexia are associated with a lack of deficits in basic reading skills, however, many individuals who shows signs of dyslexia suffer from deficits in other cognitive and academic areas such as attention, mathematics and/or spelling and written expression (Lyon, Shaywitz, Shaywitz 2003, 1-14).

Secondly, a range of neurological investigations indicates the differences in brain structure and shows a failure of the brain's system to function properly during language functioning and reading. Moreover, they imply differences in processing

brain actions, when different and less efficient parts of the brain are used when performing reading tasks (Rief and Stern 2010, 3).

Thirdly, the definition indicates that children with dyslexia may fail to recognise words accurately, their decoding abilities of the spoken form of a word (aural discrimination) and the written form (recognition of a word) are inaccurate and/or slow as well as encoding abilities (oral production and spelling). Often, dyslexia causes difficulties in the ability to read fluently (the ability to read both quickly and accurately), and with good understanding. In addition to this, it is widely acknowledged that these difficulties are caused by a deficit within the language system (Lyon, Shaywitz, Shaywitz 2003, 1-14). The deficit in phonological component of language refers to the ability to connect letters to the phonological elements which they represent. As indicated above, an unexpected difficulty in learning to read should be evaluated in association with other cognitive abilities and could occur even if effective education has been provided. Therefore, the quality of response to an expert and effective instruction should be evaluated as well (Lyon, Shaywitz, Shaywitz 2003, 1-14). This classroom instruction is connected with the need of early identification and intervention since these are the most effective in preventing reading problems. Research shows that with early appropriate intervention, 75-90 percent of children who are at-risk readers can overcome many of their difficulties and achieve an average level as regards their reading skills (Rief and Stern 2010, 8).

In addition to this, Lyon (2003, 1-14) suggests that many at-risk readers come from disadvantaged backgrounds, consequently, they enter formal schooling lacking

a number of important linguistic and other early pre-reading abilities. Finally, as the definition above indicates, phonological difficulties may cause problems in accuracy, adding or omitting part of words, fluency, speed, and expression (Rief and Stern 2010, 12). As dyslexia is a limiting factor in reading, reduced reading experience in dyslexic children can lead to poor language skills mainly low vocabulary as well as problems in gaining knowledge through reading.

What is fundamental in defining dyslexia is to be able to treat each child as an individual and to evaluate their problems by individually profiling their weaknesses in language as well as their reading skills and compare them with what is typical of their age. It will be discussed in more detail in the next chapter.

2.1.3 Causes of dyslexia

The etiology of dyslexia is multifactorial. Several genetic, neurological and cognitive traits with casual relationships between them are associated with dyslexia (Ramus 2004, 726). For instance, genetically driven brain abnormalities cause among other things poor phonological awareness and grapheme-phoneme mapping at the cognitive level, which could translate into poor reading at the behavioral level (Ramus 2004, 721). Therefore, it may be difficult to distinguish precisely between causes and effects of dyslexia. Although factors causing dyslexia vary in severity and combination of different symptoms between individuals, there are series of common characteristics. Frith (1999, 192 - 214) presents that to understand multiple aspects of dyslexia would involve following three levels: biological, cognitive and behavioral.

2.1.3.1 Biological level

The risk factors for dyslexia include genetics when the child of a dyslexic parent may be at considerable risk for a specific reading disorder. Moving on from the inheritability the brain function, activity and anatomy of individuals with dyslexia indicate abnormalities, for example, disorganisation in the cerebral cortex in the language areas, abnormal magnocellural pathways or abnormal cerebellum (Nijakowska 2010, 34). Zelinková (2003, 24) also points out that hormonal changes, especially higher level of testosterone could be one of the causes of dyslexia. Therefore men may be more predisposed to suffer from dyslexia than women.

2.1.3.2 Cognitive level

As stressed by Zelinková (2005, 18) weaknesses in cognitive processes are the main cause of failure in reading. The cognitive level refers to reduced working memory, poor phonological processing, incomplete automation or slow central processing (Nijakowska 2010, 34). Zelinková (2003, 26-31) has put forward much the same ideas, adding visual, language and speech development deficits as well as deficits in time sequencing affecting the speed of cognitive processes and the combination of deficits.

2.1.3.3 Behavioral level

The behavioral level is related to process of the analysis of reading and spelling, the analysis of behavior during writing and reading as well as in everyday life of individuals with SpLD (Zelinková 2003, 21).

To sum up, none of the levels described above has a more significant role than the others as they are directly connected. A genetic difference causes a brain abnormality which is responsible for a cognitive deficit, which could provoke certain patterns of the behavioral level.

2.1.4 Deficits and impairments associated with dyslexia

It is widely acknowledged that dyslexia is designated with poor phonological processing impairment, however, there is the variety of problems associated with it: sensory difficulties in the visual, auditory and tactile domains and problems with balance and motor control (Ramus 2004, 720). To extend the list, Zelinková (2005, 167) indicates that the deficits mentioned above as well as slow processing speed, deficits in process of automation, weaknesses in memory and concentration along with emotional functioning and more could become significant barriers in the acquisition of children's native as well as foreign languages.

2.1.4.1 Phonological deficit

According to Ramus (2004, 723) the phonological deficit is described as having three main components: poor phonological awareness, slow lexical retrieval and poor verbal short term memory. Phonological awareness is basically defined as an ability to identify, distinguish between and manipulate the sound structure of words (Nijakowska 2010, 44). In other words, it is understanding that words are composed of a number of separate sounds (phonemes). Phonemic awareness is a type of phonological awareness. While the former deals with various phonological

levels (syllables, onset-rimes and phonemes)[1], the latter one is related to the identification and manipulation of individual phonemes (Gillon 2004, 4). Concerning the relationship between speech sounds and letters, individuals with dyslexia suffer from deficits in the acquisition of the grapheme-phoneme correspondences.

Slow lexical retrieval can be evidenced in rapid serial naming tasks when dyslexics fail in rapid automatic recognition of components e.g. in naming objects in pictures, numbers and letters. Zelinková (2005, 20) stresses that it is caused by poor ability to recall rapidly concepts from the long-term memory and refers to research in recent years that has shown that individuals with dyslexia suffer from difficulties with visual perception that affects the speed of visual as well as auditory, motor and speech processes. The rate at which information is processed or slow processing speed may affect word retrieval, naming things rapidly and automatically as well as automatic word recognition and reading fluency (Rief and Stern 2010, 22).

Poor verbal short memory influences the ability to retain information such as structures of words and sentences just seen or heard. Together with poor phonological awareness they may cause spoonerisms, poor sequencing letters or syllables in words when spelling.

2.1.4.2 Auditory deficit

As maintained by Stain (2001, 24) the ability to discriminate between the letter sounds is dependent on the capacity to perceive changes in sound frequency

[1]While phonological awareness at the syllable level requires an awareness that words can be divided into syllables, onset-rime awareness demonstrates awareness that words can be divided at the intrasyllabic level (Gillon 2004, 6). For example, the word *basket* can be divided into syllables *bas-ket* or at the intrasyllabic level into *b*(onset) *as*(rime) *k*(onset) *et*(rime).

amplitude and dyslexics are considerably worse at detecting them than non-dyslexics. They are not simply bad at all auditory tasks, however, they have problems just with the modulations that are essential for distinguishing letter sounds (Stain 2001, 24). Therefore, individuals with dyslexia, who suffer lower sensitivity to sound frequency and amplitude, suffer poorer phonological skill and have problems with phonological analysis and synthesis of words while reading and writing as well as pronunciation.

2.1.4.3 Memory processing deficits

Apart from having problems with short-term memory, the ability to hold information in the mind long enough to work with it (working memory) and retrieving information that has been stored in long-term memory can cause difficulty with acquisition of grammar, remembering vocabulary and its spoken and written form. Working memory refers to the ability to process items effectively, and bring different components together to form further information. Zelinková (2005, 23) indicates that poor long-term memory may be related to another problem, namely failure in process of automation, the process which allows automation of already learned knowledge and skills.

2.1.4.4 Automation deficit and impaired concentration ability

Dyslexic children have abnormal difficulties with automatising skills (cognitive or motor) and knowledge despite extensive practice. Fawcett and Nicolson (2001, 141-159) claim that the quality of the automatised performance is lower, which is responsible for reading problems along with a deficit in phonological and motor skills

and rapid processing. While behavior of dyslexics does not significantly deviate from the standard, they experience lapses of concentration and short attention span, which causes tiredness more quickly than non-dyslexics Zelinková (2003, 29). Dyslexia may coexist with other disorders as well. Regarding concentration Attention Deficit Hyperactivity Disorders (ADHD) or Attention Deficit Disorders (ADD) commonly comorbid with dyslexia (Bradley, Danielson and Hallahan 2002, 209). This implies that children with dyslexia have to compensate for these deficits by constantly controlling and concentrating on performance of skills which non-dyslexics would normally perform automatically. Furthermore, individuals with dyslexia often refer to themselves as being disorganised and forgetful, which can be associated with poor concentration abilities.

2.1.4.5 Visual deficit

Numerous researches have shown that visual deficits are associated with dyslexia. According to George Pavlidis (Matějček 1995, 132) eye movements are connected with the ability to read when the movement of eyes during reading consists of saccades enabling perception of the following fragment of text and fixation which allows to get information. Matějček (1995, 132) indicates that dyslexics have more saccades and fixations than non-dyslexics and that their eye movements are more disordered and irregular.

Other research has found that in dyslexics, the development of the visual magnocellural system is impaired and that their motion sensitivity is reduced and binocular fixation is unsteady, which causes poor visual localisation (Stain 2001,

12). This leads to the fact that some individuals with dyslexia may experience that letters seem to move around, to change places, to move in and out of the page or get larger or smaller while trying to read (Stein 2001, 20). It follows that for some dyslexics it might be difficult to remember the proper order of letters in particular words and may cause poor orthographical skills. Zelinková (2003, 27) claims that the magnocellural system accumulates information from the whole visual field and is essential for eye movements during reading, especially for fast backward controlling mechanisms, which prevent excessive fixation with the word currently being read.

2.1.4.6 Language and speech deficits

Dyslexic children may exhibit limited vocabulary (passive and active), lower language sensitivity along with articular clumsiness. Furthermore, dyslexia is believed to be a disorder affecting both spoken and written language, the system of language acquisition as well as linguistic, pragmatic and socio-linguistic competence (Zelinková 2003, 28-151). The problems of language competence will be discussed in more detail in the section The effects of dyslexia on the learning of English as a second language.

Zelinková (2003, 156-157) indicates that some dyslexic children are reported to suffer from coexisting speech deficits when problems in articulation, fluency (rate and rhythm of speech) and modulation factors (melody, dynamics, rhythm and stress) may be present, as well as speech disorders such as dyslalia, stuttering, speech delay or articulatory dyspraxia. However, it would be wrong to claim that all children with dyslexia have speech or language deficits.

Problems with articulation are believed to follow on from an articulatory motor deficit, poor coordination of the speech organs, along with an auditory deficit and other factors. According to Matějček (1995, 114) these problems cause specific assimilations (difficulties with the pronunciation of words in which similar articular or acoustics sounds occur) and articulatory clumsiness also called articulatory dyspraxia (individuals are able to make particular sounds and words, however, their articulation is laborious, clumsy, and therefore may seem to be incomprehensible).

2.1.4.7 Emotional-motivational disorders

As a consequence of specific learning difficulties, disorders of emotional and social functioning and personal disorders can coexist with dyslexia (Nijakowska 2010, 97). Dyslexics may happen to suffer from emotional-motivational problems caused by lack of confidence, low self-perception, low tolerance for frustration along with anxiety produced by experiencing scholastic failure or feeling be unable to meet the expectations of their parents, teachers or peers. Due to feelings of disappointment and dissatisfaction at school, new situations may provoke high level of anxiety and bring about reluctance to undertaking challenges or initiate and maintain relationships with other people. With regard to language anxiety while studying foreign languages, individuals with dyslexia may demonstrate significantly higher level of anxiety at all stages of language learning.

2.1.4.8 Other common problems

In addition to the deficits and impairments already described, it is common for individuals with dyslexia to have coexisting problems such as poor orientation, motor abilities and coordination as well as the inability to organize work effectively and unbalanced performance (Rief and Stern 2010, 21-23). In terms of orientation individuals with dyslexia are reported to frequently suffer from poor spatial, corporal and right-left orientation. Additionally, they can be characterised by impaired temporal orientation when they struggle to try to organise their time and remember dates and events. Dyslexics often encounter difficulties in gross motor skills that they have problems with physical coordination and could be considered suffering from clumsiness. Insufficient fine motor skills refer to children having difficulties with holding or manipulating school tools and everyday objects or unintelligible handwriting and drawings of poor quality.

2.1.5 The effects of dyslexia on the learning of English as a FL.

The problems which many dyslexic students encounter in the learning of their native language (L1), often extends to the learning of English as a foreign language (FL). Therefore, in FL learning there should be awareness of the areas in which individuals with dyslexia are likely to show problems and how they are related to FL characteristics. This chapter discusses the relationship between dyslexia and communicative competence with all its sub-components namely linguistic, pragmatic

and socio-linguistic, which according to Common European Framework of Reference for Languages (CEFR 2001) is the goal of foreign language teaching. This has been supported by evidence obtained during the English lessons which were taught within the project "Equal opportunities". The project was in English, as a FL in groups of children with special educational needs. They will be characterised in more detail in Section 3.3.

2.1.5.1 Linguistic competence

Phonetic-phonological level, and spelling

Czech and English both belong to the Indo-European family of languages. However, they have developed in different ways. According to the International Phonetic Alphabet (IPA), Czech has 40 phonemes, whilst English has 44. In Czech, the pronounced word stress is always fixed on the first syllable, whereas in English is free, and varies from word to word, indeed even in derivatives of the base word, e.g. *photograph* /ˈfəʊtəˌgrɑːf/ and *photographer* /fəˈtɒgrəfə(r)/. Both the phonemes which do not exist in Czech and the stress were particularly troublesome for dyslexic children. This can be demonstrated by the following examples of cases which were problematic for some of the children who took part in the project:

stress: /ˈdezə(r)t/ *desert*, /dɪˈzɜː(r)t/ *dessert*

consonants: /ð/ *they*, /θ/ *three*, /w/ *what*, /ŋ/ *sing*

vowels: /æ/ *man*, /ə/ *hundred*, /ɜː/ *bird*

diphthongs and triphthongs including /ə/: /eə/ *bear*, /ɪə/ *hear*, /eɪə/ *player*, /aʊə/ *flower*

The deficit in auditory differentiation of phonemes which do not exist or have different distribution in Czech, causes difficulty in distinguishing similar-sounding words e.g. /θɪn/ *thin*, /θɪŋ/ *thing*, /θɪŋk/ *think* and voiced and voiceless consonants sounds e.g. /s/ *ice* vs. /z/ *eyes*, /t/ *bat* vs. /d/ *bad*.

The poorer ability to relate phonemes to graphemes in Czech as well as in English is reported in individuals with dyslexia. The situation is even more difficult in English as orthography does not correspond with pronunciation. Firstly, a single sound may be represented by different letters or letter combination in a word e.g. the sound /iː/ in the following words: *meet* /miːt/, *meat* /miːt/, *we* /wiː/, *people* /ˈpiːp(ə)l/, *key* /kiː/. Secondly, a given letter or a combination of letters may represent more than one sound e.g. *oo* is pronounced as *food* /fuːd/, *foot* /fʊt/, *door* /dɔː(r)/, *blood* /blʌd/. The inconsistent spelling along with a great number of exceptions and irregular forms cause problems not only to individuals with dyslexia.

Difficulties in learning L2 are also brought about by negative transfer from L1, when perception and production of L2 is influenced by L1, e.g. an incorrect pronunciation of voiced and voiceless consonants at the end of a word. The final voiced */g/* is pronounced voicelessly in Czech, *mág* /k/ while in English the final voiced consonant is always voiced *dog* /g/.

Other examples of specific errors in students with SpLD in oral and written language made during an English lesson entitled 'My body', which clearly demonstrates the above-mentioned group of problems[2]:

Transposition of letters: **gel* (leg)

[2]errors are indicated by '*', correct forms are written in brackets

Leaving out letters: **shoder* (shoulder)

Phonetic transcription of words: **aj* (eye)

Difficulty in distinguishing words that start with the same letter: *eye* vs. *ear*

Imprecise articulation, vowel length undifferentiated: *chin* /tʃɪn/ vs. *cheek* /tʃiːk/

Incorrect division of words: **lef tear* (left ear)

Difficulties with using geminated letters: **fot* (foot)

Inaccurate articulation (the word mouth): */maus/ vs. (/maʊθ/)

Difficulty in distinguishing voiced or voiceless consonant: */lek/ (leg)

Morpho-syntactic level

Individuals with dyslexia may demonstrate poor familiarity with morphological and syntactic rules, resulting in an incorrect use of parts of speech and parts of sentence e.g. due to their misidentification. As for the morphology of English, the correct use of the third person singular in the present simple tense (inflectional ending *-s* e.g. *reads*), the plural number of nouns (inflectional morpheme *-s* e.g. *mothers*) and expressing possessives (possessive ending *-s mother's*) tend to be confusing for children with dyslexia as all these structures use *-s*. Moreover, specific use of verb tenses and irregular verbs can constitute a source of perplexity as well as the auxiliary verb *do* which does not exist in Czech. Additionally, syntactic deficits concern difficulties in making grammatically correct structures and the inappropriate use of parts of speech due to the word order in English being fixed. Some dyslexics are also much more likely to make shorter or even incomplete sentences.

Specific cases of errors committed by children with SpLD within an English lesson entitled 'My daily routines' include[3]:

The omission of the verb ending -s: **He wake up.* (He wakes up.)

Plurals, omission of an inflectional morpheme -s: **He likes apple.* (He likes apples.)

The use of verb ending in negative sentences: **He doesn't combs his hair.* (He doesn't comb his hair.)

Wrong word order: **He go doesn't to school.* (He doesn't go to school.)

The omission of the auxiliary verb do in negative sentences: **He not eat.* (He doesn't eat.)

Lexical-semantic level

Memory processing and atomization deficits along with slow lexical retrieval may lead to the lower vocabulary (active and passive) in L1. If this problems occur, difficulties can be expected in the comprehension and use of vocabulary (both active and passive) in L2. Children with dyslexia often encounter problems with the acquisition of a new vocabulary item, since it is crucial to know all its components, namely the form (written and spoken), the meaning and the use. Furthermore, the concept of meaning may differ in the Czech and English languages, e.g. the word *prst* vs. *a finger, a toe.* This phenomenon is related to difficulties in the differentiation between the various meanings of words, which depend on the change of context. As individuals with dyslexia often suffer from poor time, spatial, corporal and right-

[3]errors are indicated by '*', correct forms are written in brackets

left orientation problems with the comprehension and use of spatial prepositions (such as *in, on, under, above, between, next to, in front of, behind*), adverbs and prepositions of directions (e.g. *left, right, up, down*), temporal adverbs (such as *yesterday, today, tomorrow*) and markers of sequence (e.g. *last, first, before, after*) in L1, then they may well have the same problems in the learning of L2.

2.1.5.2 Pragmatic and socio-linguistic competence

Language anxiety, lack of confidence, low self-esteem and fear of repeated failure may lead to unwillingness to establish social contacts. This reluctance to initiate and maintain conversation in L1 as well as in L2 may cause poorer social experiences or even poor social functioning. It is therefore recommended to focus on the acquisition of compensation strategies. For example, if children are not able to recall a particular word, they should be able to describe, draw, show it or use gestures.

Moreover, they should be able ask the person they are talking to, to repeat what they have said, speak more clearly and/or slow down their speech. To sum up, it appears that deficits specified above as phonological, memory processing, language and speech, automation, visual, auditory as well as impaired concentration ability, emotional-motivational disorders and other problems in the native language could influence negatively the acquisition of foreign language. Moreover, it is evident that these causal components are interrelated, and that every dyslexic individual is unique due to considerable differentiation of the type, intensity and combination of deficits as well as specific personal characteristic (e.g. cognitive abilities, learning styles and emotional-motivational characteristics). Therefore individualised and timely

diagnosis is essential as it enables immediate intervention aimed at compensation for dyslexia and employing special forms of educational and didactic help by finding effective teaching methods and approaches.

2.2 Principles of FL teaching to dyslexic learners

Children with dyslexia are likely to benefit from the type of education provided for the majority of children, however, it is the responsibility of the teacher to adapt, alter and differentiate methods, approaches, strategies and curriculum towards their individual needs and abilities. Diagnostics followed by individualisation of methods is especially important and may help to alleviate dyslexic problems. Individualised activities and success oriented tasks used regularly and frequently could make the foreign language learning process a motivating and successful experience. Furthermore, children with dyslexia require a lot of repetition, recapitulation, practice and overlearning in order to improve their automation skills. Presenting a small amount of new material at a time before acquiring new skills and knowledge is another crucial aspect.

Multisensory techniques which actively involve students in using their stronger channel of learning and positively influence the weaker ones as they hear, see, say, write trace, act out, and/or move their body to memorise and retrieve information are essential for students with dyslexia (Schneider and Crombie 2003, 16). It is widely acknowledged that children with dyslexia find *multisensory methods* beneficial (Ott 1997; Crombie 1997; Pollock and Waller 2001; Schneider and Crombie 2003;

Zelinková 2005; Nijakowska 2010). Therefore many teaching and/or remedial programs for teaching English as a native language as well as a foreign language are based on their principles. Nijakowska (2010, 124) presents among others the *multisensory structured learning* (MLS), *the Orton-Gillingham instructional approach* (OG), *the multisensory structured metacognitive language instruction* (MSML) and *the visual-auditory-kinaesthetic-tactile approach* (VAKT). In terms of kinaesthetic-tactile activities, Mlýnková (2009, 24) claims that the method *Total Physical Response* (TPR), which includes using the muscular motor system, has a positive effect on the storing of vocabulary items and phrases in to long term memory.[4]

Zelinková (2005, 78-84) supports the claim that individuals with dyslexia learn a FL best from a multisensory approach and also points out that teachers should incorporate elements from a communicative, sequential and structured approach as well as support training of metacognitive skills and respect the individual educational needs of children.

Among strategies that are likely to ensure success with dyslexic FL learners Shneider and Crombie suggest (2003, 47-50) teaching in a multisensory and metacognitive/metalinguistic way, providing opportunities for overlearning, in addition to diagnosis of special needs and restructuring of teaching techniques. Moreover, to ensure that dyslexic children can demonstrate their strengths and abilities, factors such as the personal motivation of students, the anticipation

[4]TPR is a foreign language teaching method based on psychical movement in other words, connecting and synchronizing the target language and body movements (Mlýnková 2009). TPR appeals to a number of learning styles, especially to the kineasthetic learner who learns best through physically doing or connecting something to memory through actions.

of a short concentration span, along with explicit learning and teaching with a slowed pace of presentation should be accommodated in FL teaching (Schneider and Crombie 2003, 16-18).

The previous text advocates that there exists a wide range of methods, approaches and techniques which could maximise a child's potential to master a FL, however, at the same time there is no method which would be suitable for all students (Richards and Renandya 2002, 16). Therefore, diagnosis of special educational needs, cognitive strengths and weakness should be elaborated to ensure that accommodations in FL teaching are as effective as possible and tailored to suit the specific profile of each individual child.

2.3 Research questions

Based on the theoretical survey presented above, the following empirical part of this study addresses the following research questions:

1. How does the multisensory structured and sequential instruction improve dyslexic children's communicative competence in English?

2. How does individualisation of methods and approaches based on diagnosis of special needs, weaknesses and strengths of a dyslexic child lead to overcoming of deficits and impairments associated with dyslexia?

Chapter 3

Practical Part

3.1 Introduction

This part describes the setting of the practical part of the work and its results. The outcome of research was collected in the field of teaching English as a foreign language to a Czech student with dyslexia. The practical part is designed to answer the research questions formulated in the previous chapter, namely:

1. How does the multisensory structured and sequential instruction improve dyslexic children's communicative competence in English?

2. How does individualisation of methods and approaches based on diagnosis of special needs, weaknesses and strengths of a dyslexic child lead to overcoming of deficits and impairments associated with dyslexia?

3.2 Method

The research was conducted using the case study as a research method. It is an empirical inquiry that investigates a contemporary phenomenon in depth encompassing pertinent contextual conditions and covers the logic of design and data collection techniques, along with specific approaches to data collection (Yin 2009, 18). As this work focuses on contemporary event and does not require control of behavioral events, the single case study seems to be an appropriate method to be used.

3.3 Participant

The single subject of the presented case study was a girl who was officially diagnosed as a student with dyslexia by a pedagogical-psychological counselling centre. She was a fifth grade student and attended elementary school in North Bohemia. She came from a normal middle class family with a stable home background. She was of average intelligence, and participated in regular English classes with no extra support due to her dyslexia, three times a week, for a period of forty five minutes. Her English teacher was asked for the cooperation in filling the questionnaire concerning dyslexic difficulties which have negative effects on learning English. Apart from the regular classes at school, she had a remedial teaching of both Czech and English language outside school (on a one-to-one basis, once a week, for a period of forty five minutes, for one year), it was not provided by the author.

She was carefully selected from 50 fourth and fifth graded children who were involved in the project "Equal opportunities". This project was aimed in English, as L2 in groups of children with special educational needs, where the author of the study worked as a special educational teacher from September 2008 to January 2011. She participated in forty-five minute classes in English, once a week, which involved six students being taught by the author within this project. Additionally, the individualised treatment provided by the author, based on diagnosis of her special needs, weaknesses and strengths took place once a week, for 30 minutes, for six month, from September 2010 to January 2011.

She was chosen as a representative case of a child with dyslexia, and therefore had to meet following criteria:

1. be diagnosed as a child with dyslexia without any coexisting specific learning difficulties such as dysgraphia, dysortography, ADHD and others,

2. have some typical deficits and impairments associated with dyslexia which have negative effects on learning English,

3. be co-operative, willing to participate in the treatment.

3.3.1 Personal history

This section concerns motor skills, speech and language of the subject of this case study along with her dyslexia development. Furthermore, information about preferable ways of learning and sensorial channels used predominantly is included as well.

Motor skills: The pre-school psycho-motor development was standard. The data collected from structured interviews with the child and her mother showed that her strengths were gross motor skills and that she really enjoyed physical activities. However, it was observed that her weaknesses could be fine motor skills as she had problems with fine motor skills at pre-school age, got cramp when holding a pen and wrote oversized shapes of letters in the first year of primary education.

Speech and language: According to her mother, speech and language development was standard, except for problems with the pronunciation of the consonant */ř/* which were eliminated with assistance of a speech therapist before entering school. At present there is no speech-language pathology, however, she occasionally stammers in response to stress.

Dyslexia development: Concerns were first expressed in the first year of primary education by a class teacher who recommended a visit to a pedagogical-psychological counselling centre where dyslexia was diagnosed. The complex examination with recommended approaches for individualised school work was issued. The report of psychological examination of the pedagogical-psychological counselling centre was used in this study. However, to retain the anonymity of the student, the report is not included in the appendices.

Learning styles and multiple intelligences: Two questionnaires (see Section 3.4.3.1.) were used to obtain information about the preferable ways of learning and sensorial channels used predominantly to create an individualised learning

profile. Regarding the learning styles, the results of the questionnaire followed by a structured interview with the child showed that she is primarily a kinaesthetic/tactile learner with some characteristics of an auditory learner. As far as multiple intelligences are concerned, the dominant intelligence is bodily kinaesthetic intelligence followed by logical-mathematical, music and spatial intelligence, with her lowest score being verbal-linguistic intelligence.

3.3.2 Family history

The following findings were obtained from a structured interview with the mother. The family relationships were standard with both a supportive and a empathetic environment. She had a younger sister who had no difficulties in school at all, who enjoyed the whole school experience and effortlessly achieved above average results. This sometimes led to sisterly jealousy as she perceived herself to be a poorer learner.

3.3.3 School history

This section was designed to collect data concerning initial experience and educational difficulties of the subject of this case study as well as attitude of her teachers towards problems associated with dyslexia.

Initial experience and educational difficulties: The following data was gathered using a structured interview with her mother. At the beginning she attended school with enthusiasm. However, when the first problems occurred she seemed to lose her enthusiasm and as a result was greatly disappointed. English language was the subject for which the preparation was the most time

consuming. It was difficult for her to accustom to the English ex-teacher, therefore, she refused to participate in-class activities. Another problematic subject was Czech language where some typical dyslexic mistakes occurred, such as the transposition and mixing up of letters.

Attitude of teachers towards problems associated with dyslexia: As stated by her mother, her teachers generally facilitated learning by providing support and aids such as grammatical summaries, cards and additional time for her to finish her tasks. However, there was no extra support due to her dyslexia during lessons of English language at school.

3.3.4 Dyslexic history

This section deals with the girl's problems associated with her dyslexia, such as auditory deficit, poor phonological awareness and emotional-motivational disorders. Minor deficits and impairments are discussed as well.

Auditory deficit and poor phonological awareness: Problems with girl's auditory perception and her phonological analysis and synthesis of words were indicated in the report from the pedagogical-psychological counselling centre as well as by her English language teacher. According to her English language teacher, both learning and remembering the correct spelling were difficult as was the construction of sentences in both speaking and writing. Concerning the written form of words, transposition of letters, phonetic transcription of words, leaving out letters and difficulties with using double consonants or vowels were

observed. Poor phonological awareness and a poor ability to discriminate between the letter sounds both influenced the process of learning to read and write in her native language and caused difficulties in learning of English.

Minor deficits and impairments: In addition to auditory and phonological difficulties, coexisting problems such as automation deficit, impaired concentration ability and a slow pace of work were indicated by her English language teacher. As stated by her mother, the girl had problems with copying written texts from the black board. Screening for ocular defects showed no deficiency, however, even though she was moved to the front of the classroom, the problem persisted. The report of psychological and pedagogical examination detected that the task aimed at eye-hand coordination which depended on the speed of processing was very demanding for the girl.

Emotional-motivational disorders: The following facts were acquired using a structured interview with her mother. The girl was aware of her problems and it lowered her self-esteem and confidence. The possibility of scholastic failure provoked high levels of anxiety and that together with low tolerance levels for frustration was manifested by impetuousness and giggling.

3.3.5 Summary of case description

In summary, this diagnostic assessment of special educational needs implies that her main problems were phonological and auditory in almost equal propositions, with less severe problems with automation, concentration and coordination being reported

as well. The results of her psychological examination and constant problems with copying texts from a blackboard could have indicated a visual deficit. Concerning the emotional sphere, the lack of confidence, and the low self-perception, along with a feeling of embarrassment and frustration coexist with dyslexia as a consequence of experiencing failure in the acquisition of her native language. It was not evident at the beginning of her schooling, but later on, when problems negatively influenced her acquiring of scholastic knowledge and skills. With regard to English learning she demonstrated higher levels of language anxiety.

In terms of her strengths she gave the impression of being a nice and friendly girl who willingly cooperated and performed the tasks with eagerness, the psychological-pedagogical examination supported this. She expressed a preference for physical activities which was confirmed by the results of questionnaires concerning learning styles and multiple intelligences which revealed kinaesthetic/tactile sensorial channels and bodily kinaesthetic ways of learning as the most preferable.

3.4 Individualised treatment

3.4.1 Basic training conditions

The intervention took place once a week for 30 minutes, for six months, spanning over a period of 21 lessons. The training consisted of a sequence of specific training steps addressing the different problems associated with negative effects of dyslexia on learning English.

Based on data collection and observations of the girl's performance during English lessons taught within the project "Equal opportunities" the individualised treatment respecting special needs, weaknesses and strengths included:

1. training in phonological and orthographic awareness
2. training in auditory discrimination
3. establishing relaxed, non-threatening and pleasure atmosphere in order to minimise language anxiety

During the treatment the multisensory structured and sequential instruction was conducted along with the principles of FL teaching to dyslexic learners described earlier in Chapter 2. As far as her individualized learning profile is concerned tactile and bodily kinaesthetic activities were emphasized which was based on evidence from questionnaires concerning learning styles and multiple intelligences (see Section 3.3.1).

3.4.2 Pre-intervention

3.4.2.1 Methods of data collection

Preliminary diagnosis: Preliminary diagnosis, realised in September 2010, was focused on data collection for the future design of individualised treatment, therefore, four areas such as personal, family, school and dyslexic histories were examined to ensure appropriate support to meet child's special education needs. Research methods included: (1) a structured interview with the mother, (2) a structured interview with the child, (3) a questionnaire concerning learning styles, (4) a questionnaire concerning multiple intelligences, (5) a questionnaire concerning

dyslexic difficulties completed by the English language teacher and (6) the report of psychological and pedagogical examination from the pedagogical-psychological counselling centre. The results of preliminary diagnosis are described earlier in the case description in Section 3.3. Some data acquired during the data collection procedure proved to be redundant or not applicable to this research. This data was excluded from the final data-set. The complete questionnaires and records of structured interviews are presented in appendices A, B, C, D and E.

3.4.2.2 Pre-intervention tests

The subject of the study was tested individually, over two sessions, all during individualised training in September 2010. The sessions lasted on average 30 minutes and the test battery was divided into three main parts: (1) one test assessing orthographic awareness, (2) two tests assessing phonological awareness (phonemic awareness and onset-rime awareness) and (3) one test assessing auditory discrimination.

Orthographic awareness: The first test assessed *orthographic awareness*. The subject was presented with two series of five pictures of objects, with each accompanied by the first letter of the word, and with the number of dashes indicating the number of letters in the answer. Each part started with a clear example. The participant had to write the right word for each object. An important principle was that the test should not assess recalling of vocabulary items but the acquisition of the written form. Therefore knowledge was firstly examined orally. Accurate spelling was essential and each correct response was given one point while a wrong response

was given 0 points, with a maximum score of 10 points. The spelling test from The Cambridge Young Learners English Tests (YLE 2006) was modified by the author for the purpose of orthographic testing.

The vocabulary items were taken from the Starters and Movers syllabus of YLE, which offers a standardised elementary-level testing system for learners of English between the ages of 7 and 12. The test is presented in appendix F.

Phonological awareness Two subtests were given to assess *phonological awareness*. Both of them were adapted by the author from instructional materials for teachers from the Florida Center of Reading Research (FCRR 2009). The picture stimuli were used and a quantity of items was modified to make testing more accessible to a dyslexic child. The first was administrated in order to assess the child's ability to manipulate phonemes in words to form new words by means of substitution or the deletion of a phoneme (*phonemic awareness*). The stimuli consisted of eight pictures of the original words and eight pictures of the new words. Firstly, the subject was asked to listen to each word (the original word), follow the directions, and say the new word. The instructions were in English, for example, "Say *sock*. Now change the /s/ to /r/. Say the new word." The participant was to find the picture of the new word and place it next to the picture of the original word. Some stimuli required substitution of consonants, vowels and diphthongs, while others required the deletion of the first or the final phoneme. Each correct response was given one point, whilst each wrong response was given 0 points, with a maximum score of 8 points. The pre-test is presented in appendix G.

The second subtest assessed phonological awareness that the words and syllables can be divided at the intrasyllabic level (*onset-rime awareness*). The task consisted of recognition of the rhyming words. The stimuli consisted of 20 pictures of the words forming the rhyming pairs. Firstly, the participant was asked to name the first picture card, then find and name a rhyming picture card and finally, if they were acoustically the same, to put the pair aside. Each correct response was given one point, with each wrong response given 0 points, with a maximum score of 10 points. The pre-test is presented in appendix H. An essential condition for both phonological subtests was that all vocabulary items had already been acquired to enable the testing of the multilevel skill of breaking down the sound structure of words.

Auditory discrimination: An *auditory discrimination* test was designed to assess the child's ability to recognise the fine differences between phonemes used in the English language. It was administrated in three parts, each starting with a clear example. The first subtask was aimed at distinguishing consonants in the initial position. The subject was asked to listen to the examiner and circle the pictures of the words that begin with the /θ/ sound and cross out the rest. The second and third subtasks were identical to the first, but were focused on the discrimination of the medial vowel /æ/ (the second subtask) and the final consonant /t/ (the third subtask). The child was seated in such a way that neither the examiner's mouth nor the written forms of the words on the test form were visible to the child. Each correct response was given one point, with each wrong response being given 0 points, with a maximum score of 15 points (5 points for each part). The pre-test is presented in

appendix I. Auditory discrimination of the target phonemes /θ/, /æ/ and /t/ were tested intentionally, as they were reported as problematic areas for dyslexic children (see Chapter 2.1.5.). The first initial consonant phoneme /θ/ was compared to the phonemes /ð/ and /t/, the medial vowel phoneme /æ/ to the phoneme /e/ and the final voiceless phoneme /t/ among others to the voiced phoneme /d/ which may seem to sound similar to a dyslexic child.

3.4.3 Post intervention

3.4.3.1 Methods of data collection

The guided post-interviews with the child and her mother, realised in January 2011, were focused on data collection concerning language anxiety and frustration at possible scholastic failure.

3.4.3.2 Post-intervention tests

The subject of the study was tested individually, over two sessions, all during individualised training in January 2011. The sessions lasted on average 30 minutes. As there was a relatively long period of time between the implementation of the pre-tests and post-tests (six months), a large number of different test items (43 in total) and to ensure the consistency of measurements, an identical test battery was used as post-tests: (1) one test assessing orthographic awareness, (2) two tests assessing phonological awareness (phonemic awareness and onset-rime awareness) and (3) one test assessing auditory discrimination. They are described earlier in Section 3.4.3.2.

3.4.3.3 Results

Level of language anxiety: According to child's mother, the individualised treatment had a positive impact on emotional-motivational problems such as her starting to like her English language lessons at school. The frequency of giggling when frustrated as well as her fear of expressing herself in English and lack of confidence reduced. This was confirmed in the guided interview with the girl, where she stated that the individualised treatment helped her to reduce her nervousness and overcome her fear of making mistakes in English. Additionally, she is currently not aware of too many difficulties with studying English and feels good while learning English at school. The guided interviews are presented in appendices J and K.

Post-intervention tests: Significant differences emerged between the results of the orthographic awareness pre-test (10%) and the post-test (70%). Conversely, the test of phonological awareness (phonemic level) pre-test (38%) and post-test (50%) had relatively comparable results. By contrast, significant differences were observed between the phonological awareness (onset-rime level) pre-test (40%) and post-test (80%). The results of the auditory discrimination pre-test (47%) and post-test (87%) showed significant improvement (see Table 4.1. in Section 4.1.2).

Chapter 4

Discussion of Results and Conclusion

This chapter discusses the effectiveness of the individualised treatment, respecting special educational needs, weaknesses and strengths of the dyslexic child, aimed at training in phonological and orthographic awareness, auditory discrimination as well as minimisation of language anxiety. There are compared and discussed data collected during the pre- and post-tests, the structured pre- and post-interviews along with the discussion of the research questions. Additionally, the limitations of the study and recommendations for future research are covered in this chapter.

4.1 Discussion of results

4.1.1 Summary of research questions and answers

The practical part of the work was designed to answer the research questions:

1. How does the multisensory structured and sequential instruction improve dyslexic children's communicative competence in English?

2. How does individualisation of methods and approaches based on diagnosis of special needs, weaknesses and strengths of a dyslexic child lead to the overcoming of deficits and impairments associated with dyslexia?

As to the first research question, the extent of participant's development indicates the effectiveness of multisensory training based on the individualisation of methods, especially in the area of auditory discrimination, phonological awareness (onset-rime level) and spelling, which contributes to an improvement in the sum total of all tests: an increase from 37% to 74% (see also table 4.1. in section 4.1.2). Apparently, the incorporation of multisensory instructions had a relatively significant impact not only on these areas, but also on expanding vocabulary and making progress in listening comprehension, which are some of the basic skills essential for obtaining communicative competence in the foreign language.

As regards the second research question, what follows from the research findings is that the individualisation of methods and approaches is important due to the differentiation of range and type of deficits and impairments in an individual subject with dyslexia. A relatively detailed preliminary diagnosis, which examined the personal, family, school and dyslexic histories as well as preferable ways of learning

and the sensorial channels predominantly used, enabled using the subject's strengths, interests and unique abilities along with the stimulation of weaker ones. The aforementioned aspects facilitated creating success-oriented tasks and a supportive atmosphere leading to the lowering of language anxiety and the improvement of auditory perception, orthographic and phonological awareness as the figures in Table 4.1 show.

4.1.2 Pre- and post-tests comparisons

	Pre-test		Post-test	
	(a)	**(b)**	**(c)**	**(d)**
Orthographic awareness	**10%**	F	**70%**	L
Phonological awareness (phonemic level)	**38%**	G	**50%**	M
Phonological awareness (onset-rime level)	**40%**	H	**80%**	N
Auditory discrimination	**47%**	I	**87%**	O
Overall results	**37%**		**74%**	

Table 4.1: Pre- and post-intervention tests. Legend:**(a)** results: pre-tests; **(b)** appendices: pre-tests; **(c)** results: post-tests; **(d)** appendices: post-tests.

The poor initial achievement in the **orthographic awareness** pre-test, confirmed preliminary diagnosis that the girl had problems with the acquisition of the written form of words due to her phonological and auditory problems, with her spelling one word out of ten correctly. Concerning her poor spelling skills, phonetic transcriptions e.g. **fase* and **sokss*, the wrong written form of the phoneme /æ/ e.g. ** hend *jackyt*, leaving out letters **troserss *sweatr* and other misspelled words e.g. **mouse*

(mouth), **nous* appeared in the pre-test. Since she is a kinaesthetic/tactile learner (see Section 3.3.1.), the indivialised treatment incorporated multisensory activities including movement and using tactile sensorial channels e.g. manipulation with wooden, paper or plasticine letters, finger tracing on different surfaces, the cutting of paper sentences/words, writing worksheets with card, pictures, real objects and sound stimuli as well as TPR activities and board games. After the implementation of multisensory training, her performance got markedly better as the above-reported results show. However, the following misspelled words occurred in the post-test **food (foot)* and **jacket*, which demonstrate that in spite of participating in intensive multisensory training, acquisition of language may still be largely influenced by dyslexic deficits. Sample activities for developing orthographic awareness used during the intervention are presented in appendix P.

Surprisingly, even though the results of two pre-tests of phonological awareness were comparable, the observable differences of the **phonemic awareness** pre-test and post-test were small, whereas significant differences were yielded on the onset-rime awareness (see table 4.1 in this section). This might indicate that the smaller units of sounds were used, the more difficult it was for the girl to distinguish and manipulate them. The phonemic awareness pre-test and post-test results showed a deficiency of manipulating with phonemes, namely substitution of the sound /t/ for /θ/ and /e/ for /æ/, substitution of the diphthong /aɪ/ for /əʊ/ and deletion of the final sounds. The scores of the pre-test and post-test had similar values, which showed that phonemic skills underwent no change. It may have been caused by the problems of analysis and synthesis of words reported by the pedagogical-

psychological counselling centre and little experience of the manipulation of sounds which do not exist in the Czech language.

In contrast, the improvement of participant awareness that the words share a common ending (rime unit) that can be separated from the beginning of the word i.e. onset (Gillon 2004, 6) led to enormous progress in phonological skills dealing with rhyming of one syllable words and an increase in the sum of **onset-rime awareness** post-test. Table 4.1. shows an increase from 40% to 80%.

Sample activities aimed at the development of all levels of phonological awareness (syllable, onset-rime and phonemic) used during the intervention are presented in appendix Q.

As regards the comparison between the **auditory discrimination** pre-test and post-test, significant differences were found (the pre-test score 47%, the post test score 87%), which indicates some improvement of auditory skills. Regarding incorrect answers in the pre-test, the result of the first subtask, where the initial consonant phoneme /θ/ was compared to the phonemes /ð/ and /t/, this confirmed the hypothesis that discrimination of sounds that do not exist in the Czech language may be difficult for children with dyslexia, especially if they have a lack of awareness of them. It was supported by the participant having difficulties with the discrimination of the middle vowel /æ/ in the second subtask. On the other hand, a high error rate in the discrimination of the final voiceless consonant /t/ was not reported. Auditory activities implementing multisensory techniques supporting the tactile channels and bodily kinaesthetic ways of learning were used during the intervention as they were

reported as the most preferable (see section 3.3.1.). Sample activities used during the intervention can be seen in appendix R.

4.1.3 Pre- and post-interviews comparisons

With regard to the effect of dyslexia on **emotional-motivational sphere** the girl demonstrated a higher level of language anxiety along with frustration at possible scholastic failure at the time of her preliminary diagnosis, which could have detracted from her standard of language production. Additionally, nervousness, feelings of shame and frustration were a source of perplexity, therefore this may have led to an increase in the number of errors. Her improvement during individualised treatment seemed to decrease her language anxiety, at the same time as her starting to like her English lessons along with a reduction of her lack of self confidence could have had an influence on her advancement. This implies that the post-tests results are in accordance with the data acquired from structured post-interviews with the girl and her mother. In fact, her emotional-motivational problems coexisted with her dyslexia as a consequence since there were not evident at the begging of her educational career. All the aforementioned highlights the importance of teachers and parents being sensitive to problems experienced by dyslexic children and the need to adequately understand the deficits and impairments associated with dyslexia.

4.2 Limitations of this study and recommendations for further research

Firstly, as the above-mentioned results show the individualised multisensory intervention led to the lowering of language anxiety and an improvement of auditory perception, orthographic and phonological awareness. However, the role of the individualised multisensory training should not be overestimated, as the number of her English lessons was high as she had three lessons at school per week, along with three lessons per week out of school at the time - A one-to-one lesson (not provided by the author), one individualised treatment lesson and one lesson within the "Equal opportunities" project, both provided by the author, which could have had an impact on her improvement as well.

Secondly, as to testing conditions of the phonemic awareness test, the task directions which were given orally in English, and involved the girl concentrating on the decoding of spoken language and the manipulation of phonemes at the same time, might have been too challenging for the girl. It leads to the question: To what extent does the language of the test instructions influence the performance of students with dyslexia? Might deficits associated with dyslexia such as the auditory or phonological deficit become significant barriers for students with dyslexia when being tested orally in English?

Additionally, the study was implemented with only one subject. Therefore, the question for considerations is: Would it be achievable to respect individual educational needs, learning styles, weaknesses and strengths of all students when

teaching a larger group of individuals with dyslexia? Further research need to be conduct on dyslexic populations to begin to answer this question. However, the aim of a single case study as a research method is not generalisation to a population, but to the theory (Yin 2009, 18).

Hypothesis stating that dyslexic children can made an improvement if individualised and multisensory approach is implemented, was confirmed as the advancement of the subject in some areas was reported (see table 4.1 in section 4.1.2).

Lastly, this study was based mainly on American and British sources where dyslexic re-education is mainly aimed at the systematic development of phonological awareness including the detection and manipulation of its minor elements such as syllables, onset-rimes and phonemes. This raises the question whether research findings of English speaking countries are fully applicable in teaching English as a FL to Czech students as they are often reported to prefer a global style of learning (Zelinková 2003, 169). Further research and better knowledge in this field are needed to verify whether the acquisition of phonology will have a significantly positive effect on the learning of English as a FL.

4.3 Conclusion

This work deals with implementation of individualised methods and aids to teaching English as a foreign language to a pupil with dyslexia. Consequently, the principal aim was to evaluate the effectiveness of the individualised multisensory instruction

based on diagnosis of special educational needs, weaknesses and strength of the dyslexic child. In this case study, the preliminary diagnosis was focused on data collection for the future design of individualised treatment including research methods such as: structured interviews with the mother and the child (see appendices A, B), questionnaires concerning learning styles, multiple intelligences and dyslexic difficulties (see appendices C, D, E) along with the report of psychological and pedagogical examination from the pedagogical-psychological counseling centre.

On the basis of this relatively detailed diagnosis the individualised treatment included training in orthographic and phonological awareness as well as auditory discrimination. Activities used during the intervention are presented in appendix P (orthographic awareness activities), appendix Q (phonological awareness activities) and appendix R (auditory discrimination activities). The theory, that pupils with dyslexia are likely to benefit from individualised multisensory methods and aids, was confirmed as the subject of the case study demonstrated an improvement in the following areas: orthographic awareness (see the pre- and post-test, appendices F, L), phonological awareness (see the pre- and post-test, appendices H, N) and auditory discrimination (see the pre- and post-test, appendices I, O). Moreover, the individualised treatment had a positive effect on reducing the level of pupil's language anxiety (see the structured post-interviews appendices J, K).

References

Bartoňová, Miroslava. 2007. *Specifické poruchy učení v kontextu vzdělávacích oblastí RVP ZV*. Brno: Paido.

Bradley,Renée, Danielson Louis C., Hallahan Daniel P. 2002. *Identification of learning disabilities: research to practice.* Mahwah: Lawrence Erlbaum Associantes, Inc.

Cambridge Young Learners English Tests: Handbook for teachers. 2006. Cambridge: Cambridge University Press

Common European Framework of References for Languages: Learning. 2001. Accessed June 26, 2012. www.coe.int/t/dg4/linguistic/cadre_en.asp

Crombie, Margaret. 1997. *Specific Learning Difficulties (Dyslexia): A Teachers' Guide*. Belford: Ann Arbor Publications.

Framework Education Programme for Basic Education, MŠMT ČR. 2007. Accessed June 20, 2012. http://www.msmt.cz/vzdelavani/framework-education-programme-for-basic-education?lang=1

Frith, Uta. 1999. "Paradoxes in the Definition of Dyslexia." *Dyslexia 5*(4):192-214.

Gillon, Gail T. 2004. *Phonological awareness: from research to practice*. New York: The Guilford Press.

Learning Disabilities Resource Community - Multiple Intelligence Inventory. 2002. Accessed June 10, 2012. http://www.ldrc.ca/projects/miinventory/miinventory.php

Lyon, Reid G., Shaywitz, Sally G., Shaywitz Bennett A. 2003. "Defining Dyslexia, Comorbidity, Teachers' Knowledge of Language and Reading."*Annals of Dyslexia* 53(1):1-14.

Matějček, Zdeněk. 1995. *Dyslexie. Specifické poruchy učení*. Jihočany: H&H.

Mlýnková, Radka. 2009. " Možnosti využití TPR a rozvoje fonologického/fonematického uvědomění v hodinách cizího jazyka." *Komenský - odborný časopis pro učitele základní školy.* 5: 24 - 29.

Nijakowska, Joanna. 2010. *Dyslexia in the foreign language classroom*. Bristol: Multilingual matters.

Nicolson, Roderick I., and Fawcett, Angela J. 2001. "Dyslexia as a learning disability" In *Dyslexia. Theory and Good Practice*, edited by Angela J. Fawcett, 141-159. London: Whurr Publishers.

Ott, Philomena. 1997. *How to Detect and Manage dyslexia*. Oxford: Heinemman.

Phonics worksheets on short vowels. 2012. Accessed June 10, 2012. http://www.funfonix.com/book1/

Pollock, Joy and Walter, Elizabeth. 2001. *Day-to-day dyslexia in the classroom.* London: RoutledgeFalmer.

Ramus, Franck. 2004. "Neurobiology of dyslexia: A reinterpretation of the data". *Trends in Neurosciences* 27 (12):720-726

Reid, Gavin, and Wearmouth, Janice. 2002. *Dyslexia and Literacy: Theory and Practice.* Chichester: John Wiley & Sons Ltd.

Rief, Sandra F., and Stern, Judith M. 2010. *The Dyslexia Checklist: A Practical Reference for Parents and Teachers.* San Francisco: Jossey-Buss.

Rýdlová, Dagmar. 2002. Uchopené psaní anglických slov. Praha: ERKOtyp.

Schneider, Elke and Crombie, Margaret. 2003. *Dyslexia and Foreign Language Learning.* London: David Fulton Publishers Ltd.

Stein, John. 2001. "The magnocellular theory of developmental dyslexia". *Dyslexia* 7 (1):12-36.

The Florida Center for Reading Research. 2009. Accessed June 10, 2012. http://www.fcrr.org

Three different learning styles. 2009. Accessed June 10, 2012. http://people.usd.edu/~bwjames/tut/learning-style/

Tønnessen, Finn. 1997. "How Can We Best Define Dyslexia?" *Dyslexia* 3:78-92.

World Health Organization. 1993.The ICD-10 classification of mental and behavioral disorders: diagnostic criteria for research. Geneva: World Health Organization.

Yin, Robert. K. 2009. *Case study research: Design and methods.* Los Angeles: Sage Publications, Inc.

Zelinková, Olga. 2005. *Cizí jazyky a specifické poruchy učení.* Havlíčkův Brod: Tobiáš.

Zelinková, Olga. 2003. *Poruchy učení: specifické poruchy čtení, psaní a dalších školních dovedností.* Praha: Portál.

Appendices

Appendix A

The structured interview with the mother

Osobní anamnéza:

1. **Motorika**

   (a) *Probíhal motorický vývoj Vaší dcery v normě?*

   Myslím si, že ano. Žádné závažné problémy neměla.

   (b) *Kdy začala chodit, čmárat na papír a kreslit lidskou postavu?*

   Chodit začala v jednom roce. Čmárala než začala chodit do školky a lidskou postavu začala kreslit ve školce. Žádné problémy jsem nepozorovala, byla stejně šikovná jako ostatní děti.

   (c) *Kdy se projevily první problémy a jaké?*

   Náznaky se objevily když jí bylo šest. V první třídě měla problém se psaním, křečovitě držela tužku. Když začala psát objevily se nějaké problémy s jemnou motorikovu? Ano, držení tužky. Neobratné psaní, psala strašně velká písmena.

   (d) *Je Vaše dcera obratná? Jaké pohybové aktivity má nejraději?*

   Ano, je. Baví jí běhání, lyžování a plavání. Sportování má moc ráda.

2. **Řeč**

   (a) *Kdy začala Vaše dcera mluvit? Měla nějaké artikulační obtíže?*

Začala mluvit v 1 roce. Na začátku žádné problémy neměla.

(b) *Navštěvovali jste logopeda? Z jakého důvodu?*

Ano, navštěvovali. Neuměla vyslovit ř. V první třídě bylo všechno v pořádku.

(c) *Má nějaké obtíže v současné době? V případě, že zadrhává nebo koktá v jaké situaci se to projevuje?*

Ne, nemá. Když se hodně stydí, tak zadrhává.

3. **Zdravotní stav**

(a) *Bývá Vaše dcera často nemocná?*

Ve školce byla nemocná hodně často. Trpí na ekzém.

(b) *Spí dobře a dlouho?*

Nespí moc dobře, někdy má noční děsy a je náměsíčná. Když viděla Harryho Pottera tak se to zhoršilo. Byli jsme na neurologii, ale nic nenašli.

(c) *Je snadno unavitelná?*

Ne, není.

4. **Vývoj dyslexie**

(a) *Kdy se problémy poprvé objevily?*

V první třídě, upozornila na ně třídní učitelka. Psala písmena obráceně a dost se jí pletly.

(b) *Kdy byla dyslexie diagnostikována?*

Ve druhé třídě, v PPP.

Rodinná anamnéza:

1. **Vztahy v rodině**

   (a) *Kdo se s Vaší dcerou učí? Kdo si s ní hraje?*

   Já se s ní učím a taky si s ní nejvíce hraju.

   (b) *Ke komu má největší důvěru?*

   Myslím si, že ke mně.

2. **Sourozenci**

   (a) *Má nějaké sourozence? Jaký jejich věk a pohlaví?*

   Má mladší sestru. Je jí osm.

   (b) *Je úspěšná ve škole?*

   Ano, nemá žádné problémy. Všechno ji jde samo a nemusí se vůbec učit.

   (c) *Jak s ní vychází?*

   Žárlí na ni. Občas do ní bezdůvodně strčí. Myslím si, že jí je občas líto, že sestře to všechno jde líp. Snažím se je nesrovnávat a chválit je obě a často.

3. **Výchova**

   (a) *Co se Vám nejvíce líbí na Vaší dceři?*

   Líbí se mi, že se nestydí držet se mě za ruku. Je šikovná na výtvarku. Mám na ní ráda všechno, ráda se mazlí.

(b) *Co jí nejčastěji zakazujete? Proč? S jakým výsledkem?*

Zakazuju počítač. Občas mě neposlechne, ale většinou ano.

(c) *Jaký volíte trest pokud neposlouchá? Jak na to reaguje?*

Snažím se moc netrestat. Tresty bere v pohodě.

4. **Výchovné obtíže**

(a) *Jaké výchovné obtíže či nápadnosti v chování vám vadí?*

Dříve jí bylo učení úplně jedno. Trošku se to zlepšilo. V první třídě byla ze všeho nadšená, pak jí to moc nešlo a byla hodně zklamaná.

(b) *Popište průběh chování, který vám vadí? Co děláte, když se objeví?*

Občas se hodně vzteká, pomáhá studená voda a nebo jí nechat o samotě.

5. **Příprava na vyučování**

(a) *Jak dlouho se Vaše dcera učí?*

Učí se tak 15 minut, když má další den test.

(b) *Jakým předmětům se věnuje nejvíce?*

Nejvíc času stráví s angličtinou. Na druhou stranu jí baví vybarvovat a tvořit projekty v angličtině.

(c) *Má z nějakého předmětu, aktivity či učitele strach?*

Dlouho trvalo, než si zvykla na novou paní učitelku angličtiny. Dokonce nechtěla chodit na AJ. Říkala, že jí učitelka nevěří.

Školní anamnéza:

1. **Předškolní věk a počáteční zkušenosti v ZŠ**

   (a) *Chodila Vaše dcera do MŠ? Jak se adaptovala?*

   Líbilo se jí tam. Párkrát se ode mě nechtěla odloučit, ale srovnalo se to.

   (b) *Byl doporučen odklad školní docházky? Proč?*

   Ano, narodila se v říjnu. Byla hodně hravá. Chtěla zůstat v MŠ aby si mohla hrát.

   (c) *Jak probíhala adaptace v 1. třídě? Těšila se do školy?*

   Do školy se těšila, když zažila první neúspěchy byla nešťastná a zklamaná. Pletly se jí písmena, přehazovala je.

2. **Vztah k učitelům a spolužákům**

   (a) *Jaký byl vztah k učitelce v 1.třídě?*

   Většinou dobrý. Občas prohlásila, že se úča zbláznila.

   (b) *Jak reagují učitelé na její problémy?*

   Snaží se pomáhat. Má různé úlevy, může používat gramatické tabulky a kartičky. Někdy dostane víc času na dokončení.

   (c) *Jak reaguje učitelka anglického jazyka na její problémy?*

   Myslím si, že nijak. Žádné speciální pomůcky, úlevy nebo pomoc nemá.

   (d) *Jaký má vztah ke spolužákům? Má hodně kamarádů?*

   Jsou dobrý kolektiv. Kamarádek má hodně.

Dyslektická anamnéza:

1. **Sluchová a zraková percepce**

   (a) *Sledujete nějaké problémy se zvládnutím zvukové stránky slov?*

   Například je schopná rozložit slyšené slovo na jednotlivé hlásky? Určit jakou hláskou slovo začíná či končí? Určit čím se dvě vyslovená slova liší? Ted´ už všechno zvládá, ale v první třídě s tím měla problémy.

   (b) *Měla nebo má Vaše dcera problémy se zrakovým vnímáním?*

   Má obtíže při opisování z tabule. Byli jsme na vyšetření u očního lékaře, ale všechno je v pořádku. I po přesazení do první lavice, problémy přetrvávají.

2. **Pravolevá a prostorová orientace, orientace v čase, organizace sama sebe**

   (a) *Má Vaše dcera problémy s orientací v prostoru? Zaměňuje pravou a levou stranu?*

   Bez problémů. Má velice dobrou prostorovou orientaci.

   (b) *Má Vaše dcera potíže s orientací v čase/organizací sama sebe?*

   Ne, bez problémů.

3. **Paměť, pracovní tempo, koncentrace pozornosti**

   (a) *Má Vaše dcera problémy se zapamatováním? Má problémy s vybavováním již naučeného?*

Většinou ne, pamatuje si dobře.

(b) *Jaké je její pracovní tempo?*

Má pomalé pracovní tempo. Když to dlouho trvá, je vyčerpaná. Není ochotná to projít znovu a opravit chyby.

(c) *Dokáže se Vaše dcera dobře koncentrovat?*

S tím má problémy, nedokáže se dlouho soustředit.

4. **Sebehodnocení, obavy ze selhání**

(a) *Jak Vaše dcera vnímá sama sebe? Bojí se selhání ve škole?*

Když se něco naučí hodně dobře, třeba básníčku, tak je to bez problémů. Věří si. Pokud si není úplně jistá, je nervózní. Nervozita se projevuje tak, že se zbrkle chová nebo se chichotá. Nerada čte nahlas před celou třídou. Situaci kde se cítí nepříjemně, chce mít co nejrychleji za sebou a je zbrklá.

Appendix B

The structured interview with the child

Anglický jazyk a dyslexie

1. *Co si myslíš, že ti jde nejlépe v AJ? Co tě nejvíce baví?*

   Baví mě různé projekty, když je můžu dělat doma. Nejlíp mi jde spojování slovíček s obrázky. Baví mě běhání a hledání slovíček.

2. *Kdo nebo co ti pomáhá při učení AJ?*

   Pomáhá mi mamka, když se něco učím ptám se jí. Musím si to sama vyzkoušet.

3. *Vidíš sama u sebe potíže při výuce AJ? Pokud ano jaké?*

   Nemám ráda hry, když se musí strašně rychle odpovídat. Najednou si nemůžu vzpomenout.

4. *Jak se cítíš při výuce AJ?*

   Jak kdy. Nelíbí se mi, že mi paní učitelka nevěří. Při soutěži neslyšela moji odpověď a nevěřila mi, že jsem to řekla správně.

5. *Jsi někdy nervózní v hodině AJ?*

   Někdy ano, nechci být poslední nebo nejhorší. Když je na to málo času.

6. *Máš z něčeho strach?*

   Nelíbí se mi odpovídat před celou třídou. Moc dlouhý písemky mi vadí.

7. *Jak se k tobě chová učitelka AJ?*

   Nevěří mi.

8. *Jak se k tobě chovají spolužáci?*

   Většinou dobře, kluci někdy otravujou.

Appendix C

The questionnaire concerning learning styles (the child)

1. Když se učíš na test

   ☐ přečteš si poznámky v sešitě, podíváš se do učebnice a prohlédneš si obrázky

   ☒ máš ráda u sebe někoho, koho se můžeš zeptat, nebo si informace pro sebe potichu opakuješ

   ☐ napíšeš si učivo na lístečky, znázorňuješ si ho (kreslíš, vyrábíš modely)

2. Co děláš, když posloucháš hudbu?

   ☐ představuješ si různé věci, které tě napadají

   ☐ broukáš si

   ☒ pohybuješ se do hudby, klepeš nohou

3. Když chceš vyřešit nějaký problém nebo úlohu

   ☐ napíšeš si seznam kroků a odškrtneš je, když jsou splněny

   ☒ zavoláš někomu, zeptáš se

   ☐ v duchu si představíš postup, jak budeš problém řešit

4. Pro zábavu si nejraději čteš knížku plnou

   ☐ obrázků

☐ tajemství a rozhovorů

☒ otázek a hádanek

5. Když se chceš naučit používat počítač

   ☐ podíváš se na film, kde ti vysvětlí jak na to

   ☐ poprosíš někoho, aby ti to vysvětlil

   ☒ zapneš si počítač a zkusíš se to naučit sama

6. Zrovna jsi vešla do vědeckého muzea. Co uděláš jako první?

   ☐ rozhlédneš se a najdeš plán muzea, podíváš se, kde jsou zajímavé expozice

   ☐ popovídáš si s průvodcem muzea a zeptáš se na zajímavé expozice

   ☒ vejdeš do první výstavní síně, která vypadá zajímavě

7. Do jaké restaurace bys raději nešla? Tam kde

   ☒ je příliš jasné nebo zářivé světlo

   ☐ je příliš hlasitá hudba

   ☐ jsou nepohodlné židle

8. Nejraději by ses přihlásila do kroužku

   ☐ výtvarného

   ☐ hudebního

   ☒ pohybového

9. Co děláš, když jsi šťastná?

   ☐ usmíváš se

   ☒ jásáš nebo křičíš radostí

   ☐ skáčeš radostí

10. Jsi na narozeninové oslavě. Co si budeš následující den pamatovat nejvíc?

    ☐ obličeje lidí, ale ne jména

    ☒ jména, ale ne obličeje

    ☐ věci, které jsi řekla a udělala

11. Když vidíš slovo *pes*. Co uděláš jako první?

    ☒ představíš si určitého psa

    ☐ řekneš si pro sebe potichu slovo pes

    ☐ představíš si, jak hladíš psa a nebo s ním běháš

12. Když máš vyprávět příběh, nejraději bys ho:

    ☐ napsala

    ☐ řekla nahlas

    ☒ zahrála jako scénku

13. Když se soustředíš, co tě nejvíc vyrušuje?

    ☒ věci, které tě zrakově rozptylují

    ☐ zvuky

☐ jiné pocity (hlad, těsné boty, starosti)

14. Co děláš, když jsi rozzlobená?

    ☐ mračíš se

    ☒ křičíš nebo vybuchneš

    ☐ zadupeš nebo práskneš dveřmi

15. Co děláš, když v angličtině nevíš jak napsat slovo?

    ☐ napíšeš ho a podíváš se, jestli vypadá v pořádku

    ☐ poslechneš si ho, řekneš si ho nahlas

    ☒ napíšeš ho a vnitřní pocit ti napoví, jestli je v pořádku

16. Co uděláš, když čekáš v kině ve dlouhé frontě?

    ☒ koukáš se na plakáty a reklamy

    ☐ povídáš si s lidmi kolem tebe

    ☐ podupáváš, pohybuješ se

This questionnaire was translated and adapted by the author from the web site *Three different learning styles* (Three different learning styles 2009).

Appendix D

The questionnaire concerning multiple intelligences (the child)

Pokyny

Ohodnoťte následující výroky zaškrnutím právě jedné z možností:

[0] nesouhlasím

[1] částečně nesouhlasím

[2] částečně souhlasím

[3] souhlasím

1. [0] [1] [X] [3] Umím hrát na hudební nástroj.
2. [0] [1] [X] [3] Často mám v hlavě nějakou písničku nebo melodii.
3. [0] [1] [2] [X] Je pro mě jednoduché vymýšlet si příběhy.
4. [0] [1] [2] [X] Mám dobrou fyzickou koordinaci (dobře běhám, skáču, držím rovnováhu, atd.).
5. [0] [1] [X] [3] Hudba je pro mě velice důležitá.

6. [0] [X] [2] [3] Když chci, umím dobře lhát.

7. [0] [1] [2] [X] Provozuji nějaký sport nebo tancuji.

8. [0] [1] [2] [X] Jsem společenská a jsem ráda mezi lidmi.

9. [0] [1] [2] [X] Je pro mě snadné porozumět grafům a mapám.

10. [0] [1] [2] [X] Snadno si zapamatuji věty, básničky nebo texty písniček.

11. [0] [1] [2] [X] Snadno poznám místa, kde už jsem byla.

12. [X] [1] [2] [3] Když se soustředím, kreslím si.

13. [0] [1] [2] [X] Je pro mě snadné spočítat příklad v hlavě.

14. [0] [X] [2] [3] Mám ráda český jazyk nebo anglický jazyk.

15. [0] [1] [X] [3] Ráda úlohy nebo otázky pečlivě promýšlím.

16. [0] [1] [2] [X] Mám ráda adrenalinové sporty nebo horskou dráhu.

17. [0] [1] [X] [3] Nejraději mám individuální sporty.

18. [0] [1] [X] [3] Je pro mě snadné zapamatovat si telefonní čísla.

19. [0] [1] [2] [X] Plánuji si, co budu dělat v budoucnosti nebo čeho bych chtěla dosáhnout.

20. [0] [1] [X] [3] Je pro mě snadné rozpoznat, jestli mě někdo má nebo nemá rád.

21. [0] [1] [2] [X] Abych se něco nového naučila, potřebuji si to vyzkoušet

22. [0] [1] [2] [X] Když zavřu oči, představuji si různé tvary nebo obrázky.

23. [0] [1] [2] [X] Když počítám, nepomáhám si počítáním na prstech.

24. [0] [1] [2] [X] Mám ráda hudební výchovu.

25. [0] [1] [2] [X] Myslím si, že míčové hry jsou zábavné a jednoduché.

26. [0] [1] [2] [X] Mám ráda matematiku.

27. [0] [1] [2] [X] Vždycky umím říct, jak se cítím.

28. [X] [1] [2] [3] Píšu si deníček.

29. [0] [1] [2] [X] Mám ráda výtvarnou výchovu.

30. [0] [1] [2] [X] Když zpívám, cítím se šťastně.

31. [0] [1] [X] [3] Ráda trávím čas sama.

32. [0] [1] [X] [3] Moji kamarádi za mnou přijdou, když potřebují radu nebo podpořit.

33. [0] [X] [2] [3] Ráda čtu.

34. [X] [1] [2] [3] Cítím se nesvá, když někdo brečí a nemůžu mu pomoci.

35. [0] [1] [2] [X] Mám ráda týmové sporty.

This questionnaire was translated and adapted by the author from the web site *Learning Disabilities Resource Community* (Learning Disabilities Resource Community 2002).

Appendix E

The questionnaire concerning dyslexic difficulties (the English language teacher)

Pokyny

Ohodnoťte následující výroky zaškrnutím právě jedné z možností:

0 nikdy jsem tyto deficity nepozoroval/a

1 tyto deficity se projevují zřídka

2 tyto deficity se projevují často

Projevy SPU

Tyto nežádoucí deficity se mohou stát významnými bariérami při osvojování cizího jazyka:

1. 0 **X** 2 řeč (nedostatečně rozvinutý jazykový cit, artikulační neobratnost)
2. 0 1 **X** sluchová percepce (neschopnost zvládnout zvukovou stránku slov)
3. 0 **X** 2 zraková percepce (nesprávné vedení očních pohybů, nepřesné rozlišení figura-pozadí)

4. [X] [1] [2] pravolevá a prostorová orientace (potíže při orientaci v prostoru)
5. [0] [X] [2] paměť (potíže především s krátkodobou a pracovní)
6. [0] [X] [2] automatizace (pomalé pracovní tempo)
7. [0] [X] [2] koncentrace pozornosti (poruchy soustředění)
8. [0] [X] [2] snížená schopnost vybavovat si pojmy z dlouhodobé paměti
9. [X] [1] [2] motorika (neobratnost)
10. [0] [X] [2] potíže s orientací v čase, organizací sebe sama
11. [0] [X] [2] odchylky v chování, nižší sebehodnocení, obavy ze selhání

Specifické obtíže žáků se SPU při osvojování anglického jazyka

Narušení jedné nebo více rovin mateřského jazyka může negativně ovlivnit osvojování anglického jazyka. Přestože má dítě dostatečné intelektuální schopnosti, komunikační schopnost může být narušená. Označte následující problémy s osvojováním anglického jazyka podle toho, jak často je pozorujete:

1. [X] [1] [2] problémy rozeznávat slabiky tvořící jednotlivá slova a zacházet s nimi
2. [0] [X] [2] problémy rozeznávat jednotlivá slova tvořící větu
3. [0] [1] [X] problémy s písemnou formou slova
4. [X] [1] [2] problémy s ústní formou slova (výslovnost)

5. [0] [X] [2] problémy přiřadit výslovnost a grafický symbol (zvuk a grafický symbol)

6. [0] [1] [X] problémy osvojit si správnou stavbu vět

7. [X] [1] [2] problémy se zapamatováním slovní zásoby

8. [X] [1] [2] problémy s vybavováním (učivo zvládá, ale pomalu si vybavuje jednotlivé výrazy)

Následující chyby v ústním a písemném projevu se mohou vyskytovat u dětí se SPU. Označte následující typové chyby podle toho, jak často se vyskytují:

1. [0] [1] [X] přesmyknutí písmen: **gel (leg)*

2. [0] [1] [X] eliminace: **shoder (shoulder)*

3. [0] [1] [X] fonetický přepis slov: **aj (eye)*

4. [0] [X] [2] obtíže v rozlišení slov začínajících na stejné písmeno: *eye* × *ear*

5. [0] [X] [2] nepřesná artikulace, nerozlišení délky samohlásky: *chin* /tʃɪn/ × *cheek* /tʃɪːk/

6. [X] [1] [2] nesprávné členění slov: **leftear (left ear)*

7. [0] [1] [X] nesprávné použití zdvojených hlásek: **fot (foot)*

8. [0] [X] [2] nepřesná artikulace: */maus/ × /maʊθ/ *(mouth)*

9. [0] [X] [2] nerozlišování neznělé a znělé souhlásky: */lek/ × /leg/*

10. [0] [1] [X] vynechání koncovky *s* u sloves: **He wake up. (wakes)*

11. [0] [1] [X] užití koncovky *s* v záporné větě: **He doesn't combs his hair. (He doesn't comb his hair.)*

12. [0] [1] [X] chybný pořádek slov ve větě: **He go doesn't to school. (He doesn't go to school.)*

13. [0] [1] [X] vynechání pomocného slovesa v záporné větě: **He not eat. (He doesn't eat.)*

Pokud jste pozoroval/a další deficity či problémy při studiu anglického jazyka napište je zde:

Appendix F

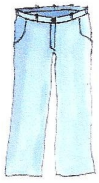
Orthographic awareness (pre-test)

dress 

s _ _ _ _ 

j e c k e t 

s o k s 

t r o u s e r s 

s w e a t e r 

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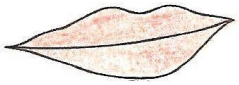

m o u s e

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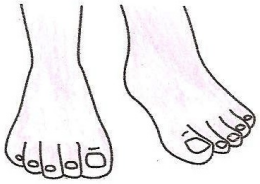


f e e t

f a c e

Appendix G - Phonological awareness

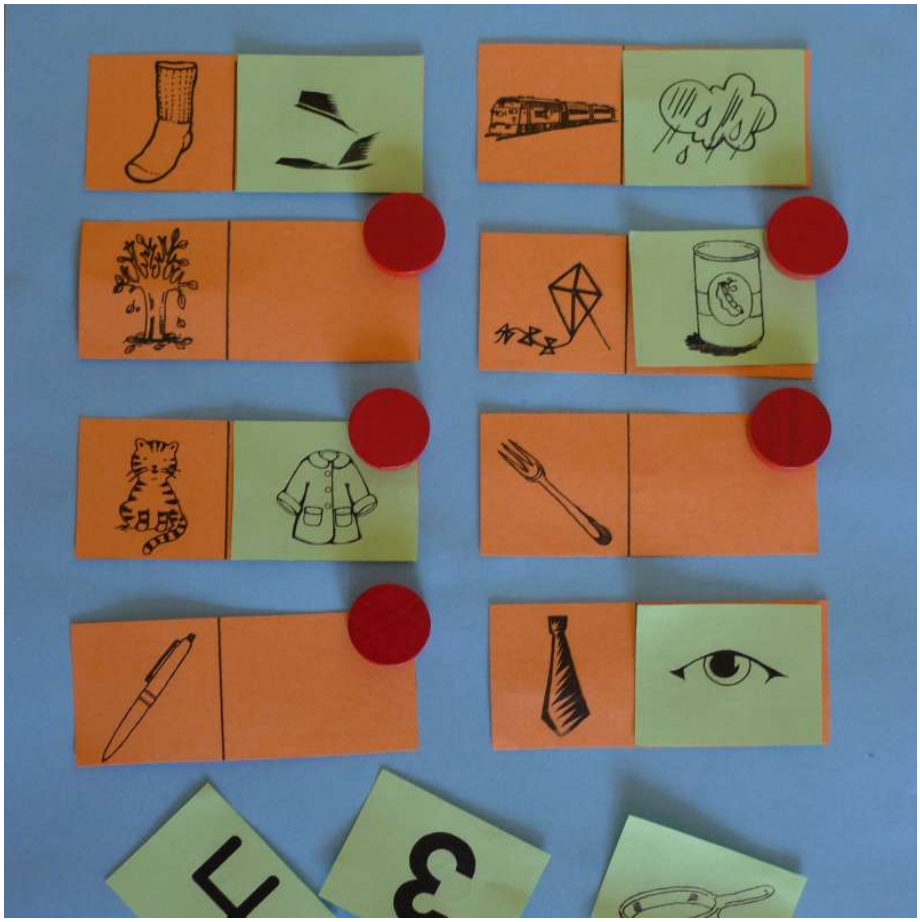
Phonemic awareness (pre-test)

Instructions: Read the bold text. Allow time for students to say words. An answer key is provided at the bottom of the page.

Listen to each word, follow the directions, and say the new word. For example, say *rose*..., now change /r/ to /n/, say the new word ... *nose*. Find the picture of the new word and place it next to the picture of the original word.

Number 1.	Say sock	Now change the /s/ to /r/.	Say the new word....
Number 2.	Say tree	Now change the /t/ to /θ/.	Say the new word....
Number 3.	Say cat	Now change the /t/ to /n/.	Say the new word....
Number 4.	Say pen	Now change the /e/ to /æ/.	Say the new word....
Number 5.	Say kite	Now change the /aɪ/ to /əʊ/.	Say the new word....
Number 6.	Say train	Say it without /t/....	
Number 7.	Say fork	Say it without the /k/....	
Number 8.	Say tie	Say it without /t/....	

Answer key: 1. rock, 2. three, 3. can, 4. pan, 5. rain, 6. coat, 7. four, 8. eye

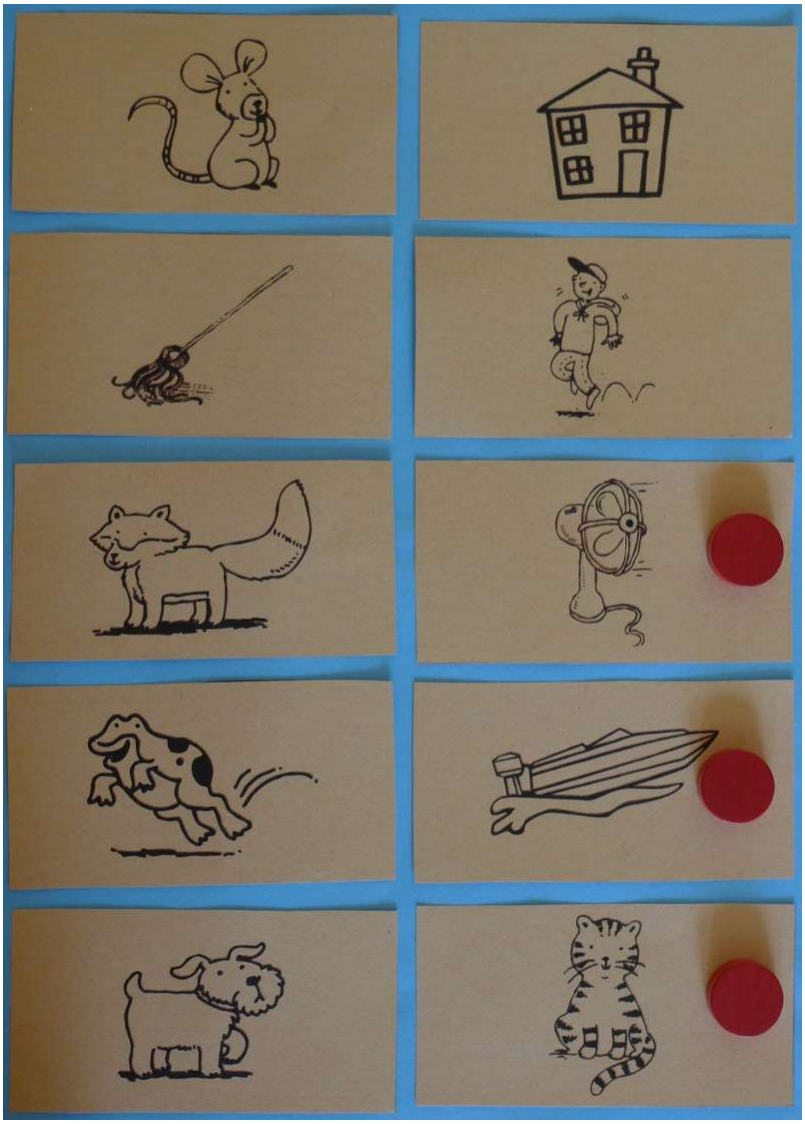


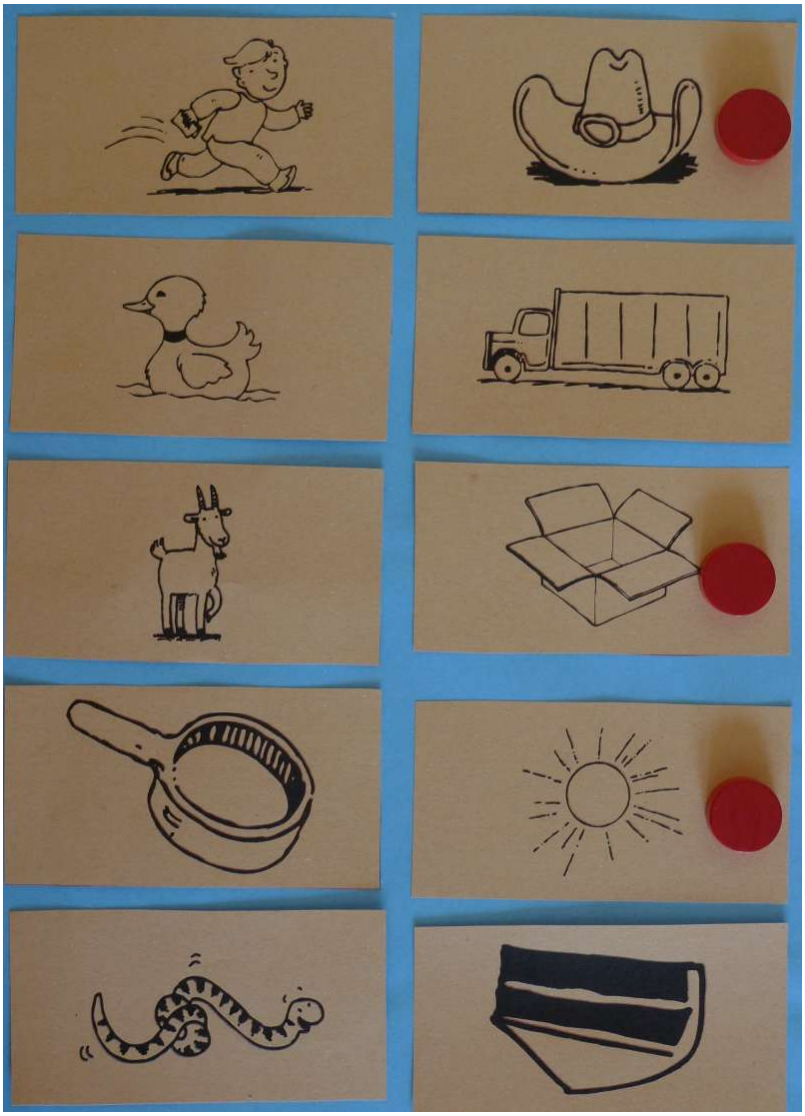
Answer key: 1. rock, 2. three, 3. can, 4. pan, 5. rain, 6. coat, 7. four, 8. eye

Incorrect answers are marked with a red marker.

Appendix H - Phonological awareness

Onset-rime awareness (pre-test)



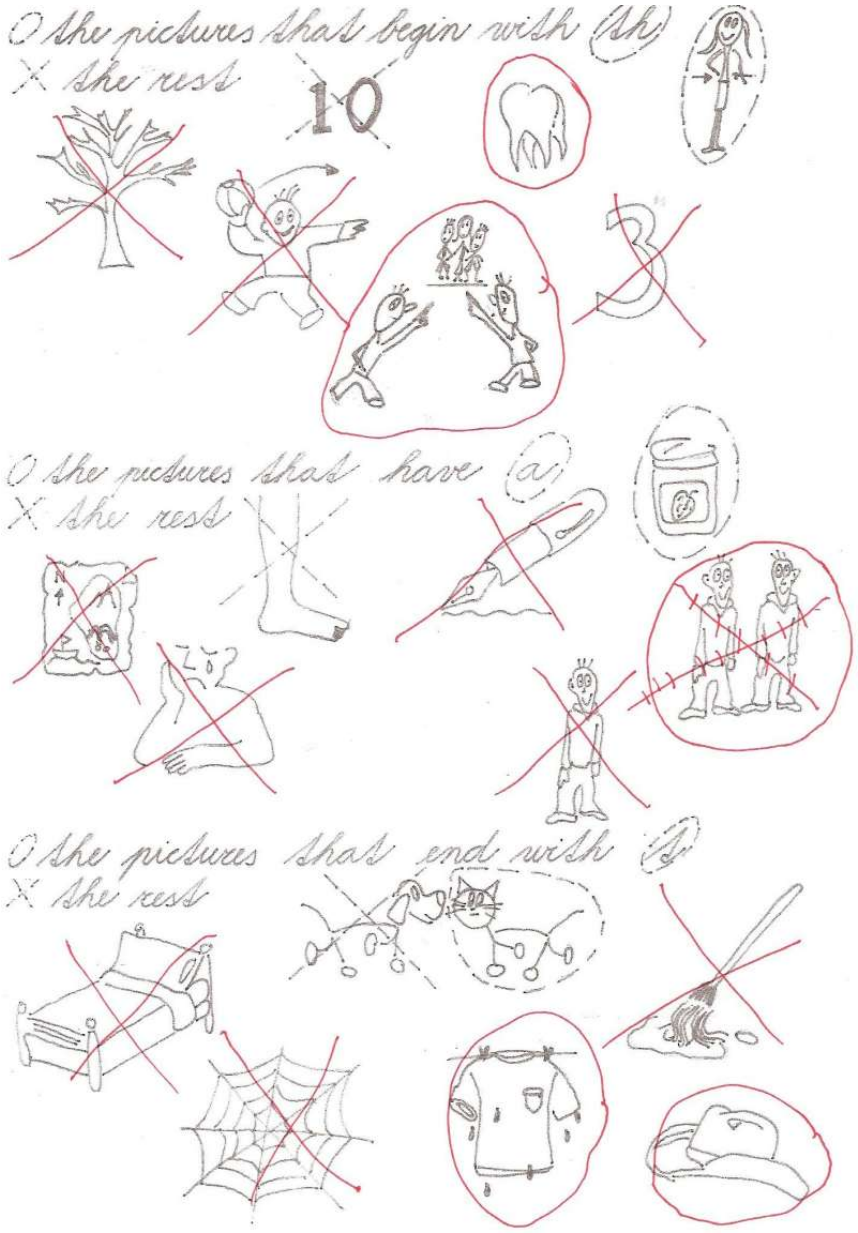


Answer key: 1. mouse, house 2. mop, hop 3. fox, box 4. frog, dog 5. run, sun 6. duck, truck 7. goat, boat 8. pan, fan 9. snake, cake 10. hat, cat

Incorrect answers are marked with a red marker.

Appendix I

Auditory discrimination (pre-test)



Answer key: /θ/ throw, three /æ/ map, sad, man /t/ wet, hat

Appendix J

The structured interview with the mother (post-intervention)

1. *Všimla jste si u Vaší dcery nějakých pozitivních změn?*

   Přijde mi, že se trochu zlepšila ve všem. Pozoruju celkové zlepšení. Angličtina mnohem oblíbenější, víc jí baví.

2. *Změnilo se nějak vnímání sama sebe u Vaší dcery?*

   Myslím si, že už se tolik nebojí, že udělá chybu nebo mluvit. Není tolik nervózní a přestala se chichotat.

3. *Jak byste celkově hodnotila posun vaší dcery během uplynulého půl roku?*

   Tento kurz ji rozhodně pomohl. Nestydí se vyjadřovat a věří si. Úkolů mají minimum a domácí přípravu zvládá sama během chvilky. Bylo to přínosné ve všech směrech, má větší jistotu.

Appendix K

The structured interview with the child (post-intervention)

1. *Co si myslíš, že ti jde nejlépe v AJ? A co tě nejvíce baví?*

   Slovíčka, povolání a zvířata. Taky mi jde překlad. Nejvíc mě baví všelijaké samostatné práce.

2. *Pomohla ti naše setkání zlepšit se v AJ? Pokud ano v čem?*

   Ano, pro mě ve všem. Já když se učím hrou, tak mi to jde lépe.

3. *Vidíš sama u sebe nějaké potíže při výuce AJ? Pokud ano, jaké?*

   Ne.

4. *Jak se cítíš při výuce AJ?*

   Dobře.

5. *Máš z něčeho strach?*

   Ne, maximálně z pololetních prací.

6. *Jak se k tobě chová paní učitelka a jak spolužáci?*

   Paní učitelka je na mě hodná. Někteří spolužáci se ke mě chovají dobře a někteří strašně.

Appendix L

Orthographic awareness (post-test)

dress 

 ear

s H I R T 

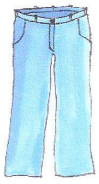
 m o u t h

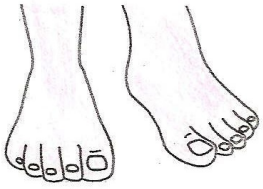
j E C K E T 

 h A n D

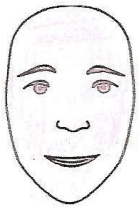
s O C K S 

 n O S E

t R O U S E R S 

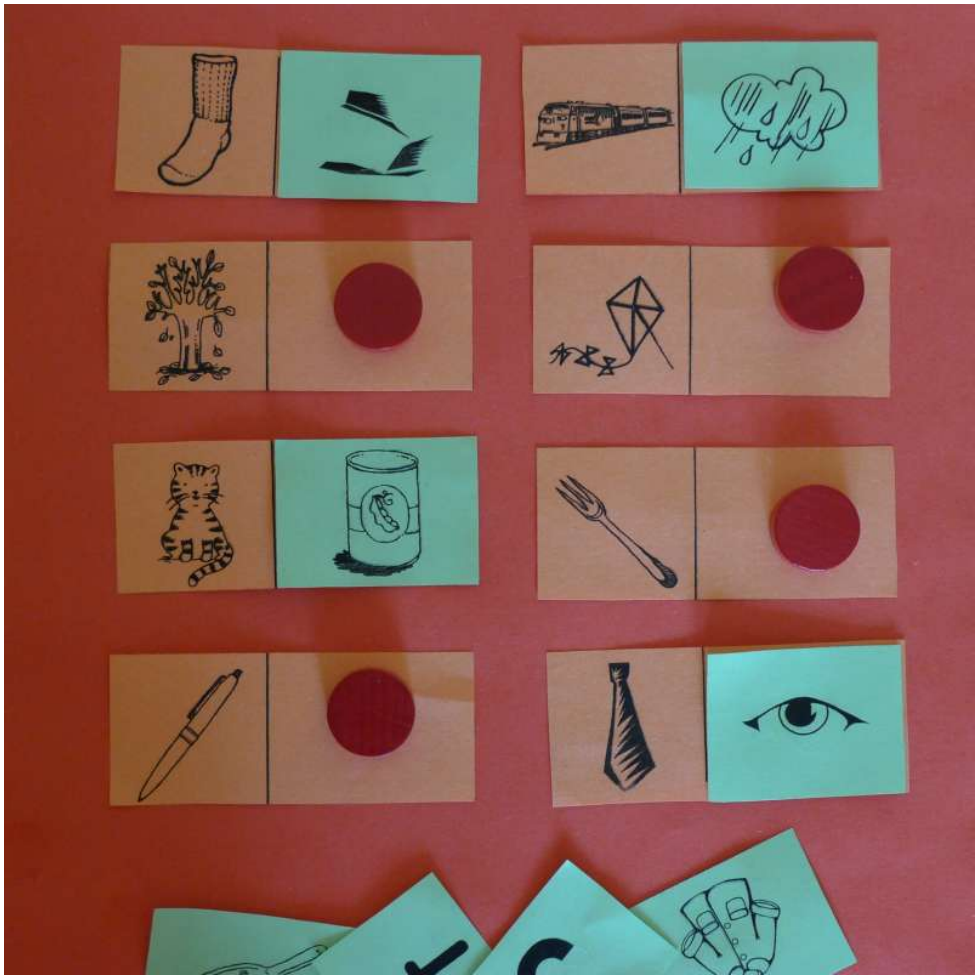
 f O O D

s W E A I E R 

 f _ _ _ _

Appendix M - Phonological awareness

Phonemic awareness (post-test)

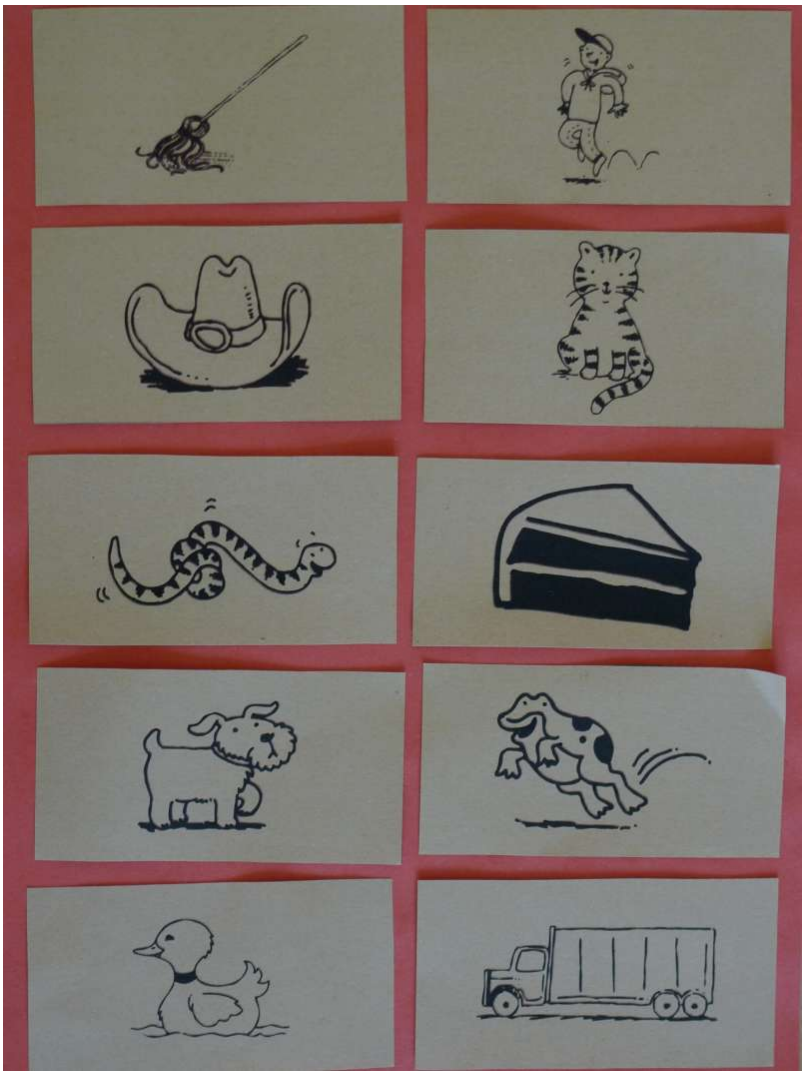


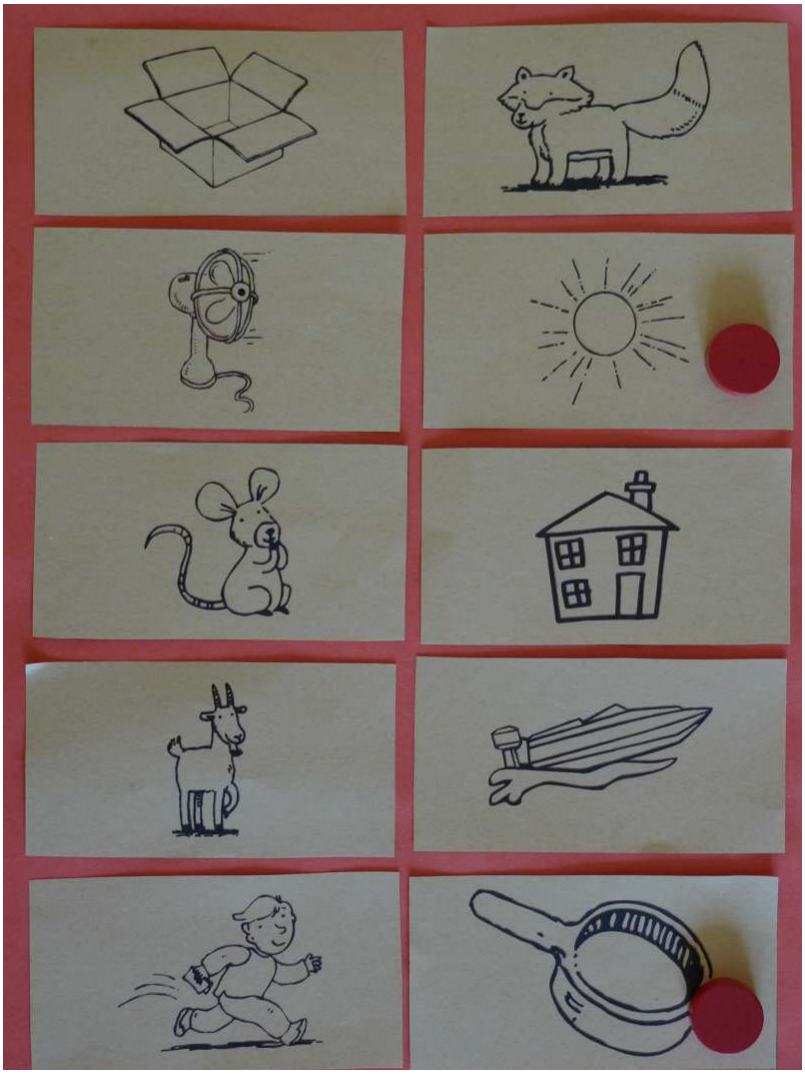
Answer key: 1. rock, 2. three, 3. can, 4. pan, 5. rain, 6. coat, 7. four, 8. eye

Incorrect answers are marked with a red marker.

Appendix N - Phonological awareness

Onset-rime awareness (post-test)



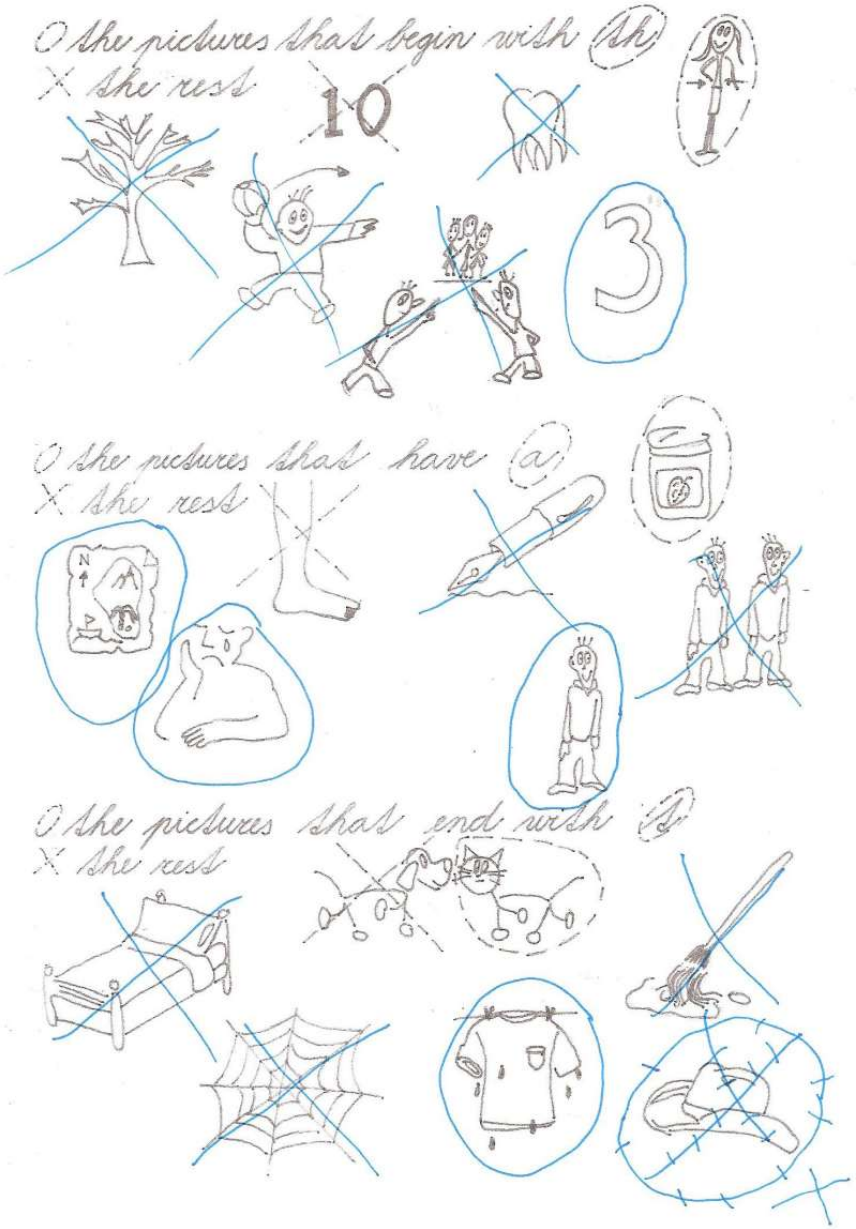


Answer key: 1. mouse, house 2. mop, hop 3. fox, box 4. frog, dog 5. run, sun 6. duck, truck 7. goat, boat 8. snake, cake 9. cat, hat 10. pan, fan

Incorrect answers are marked with a red marker.

Appendix O

Auditory discrimination (post-test)

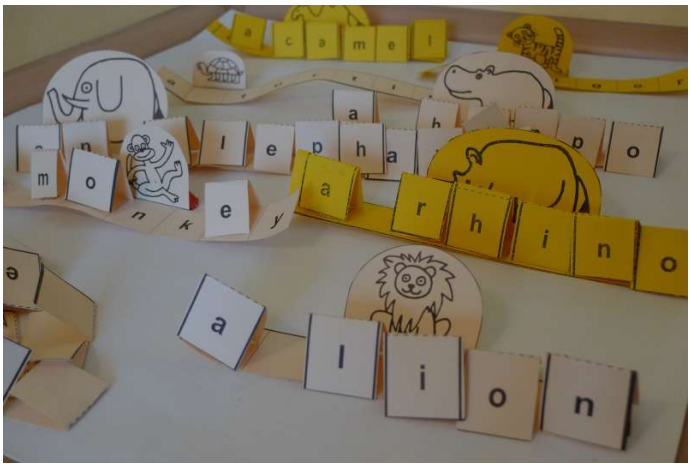


Answer key: /θ/ throw, three /æ/ map, sad, man /t/ wet, hat

Appendix P

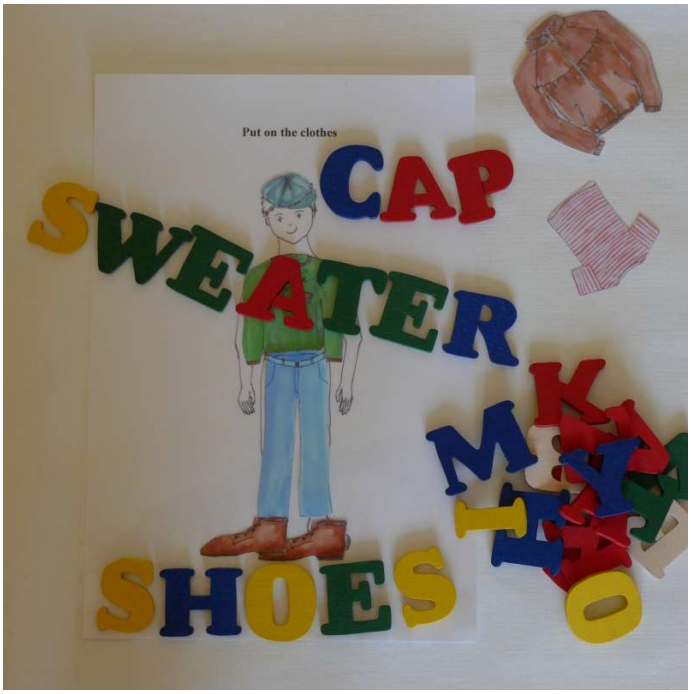
Orthographic awareness activities

Cutting words/sentences (topic: daily routines). This activity was adapted from tactile materials *Uchopené psaní anglických slov (Rýdlová 2002).*

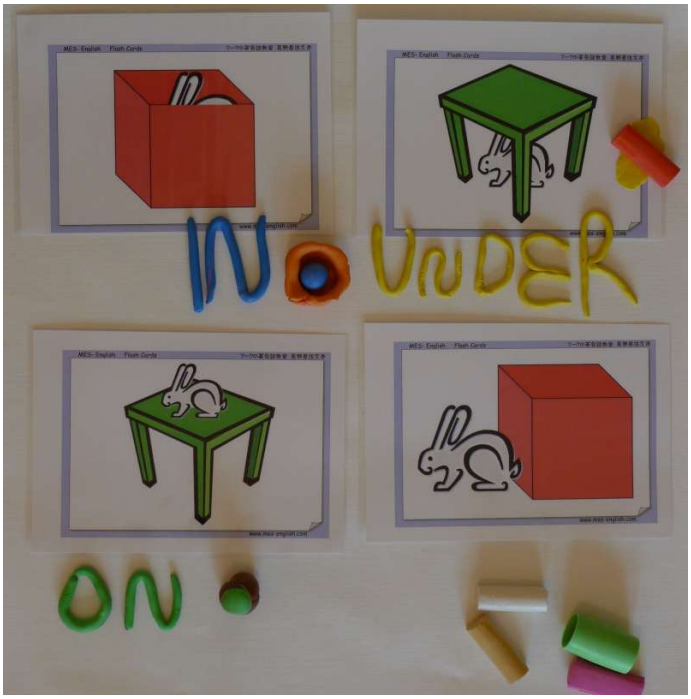


Manipulation with paper letters (topic: animals). This activity can be found in tactile materials *Uchopené psaní anglických slov (Rýdlová 2002).*

Finger tracing (topic: fruit).



Manipulation with wooden letters (topic: clothes).



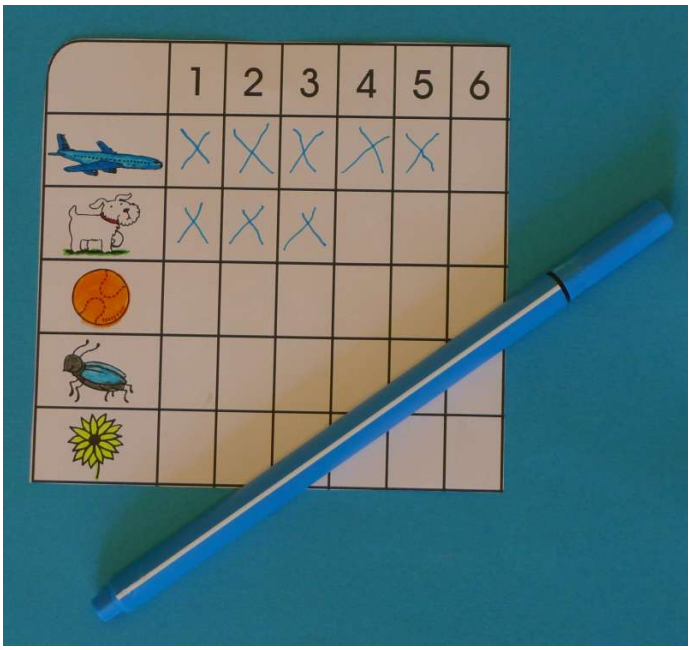
Plasteline letters and modeling (topic: prepositions).

Appendix Q

Phonological awareness activities

1. **Sentence segmentation**

   Instructions: Students listen to the teacher saying sentences (three times). 1. Students listen. 2. Students listen again while marking one box per word. 3. Students listen a third time while checking marks.

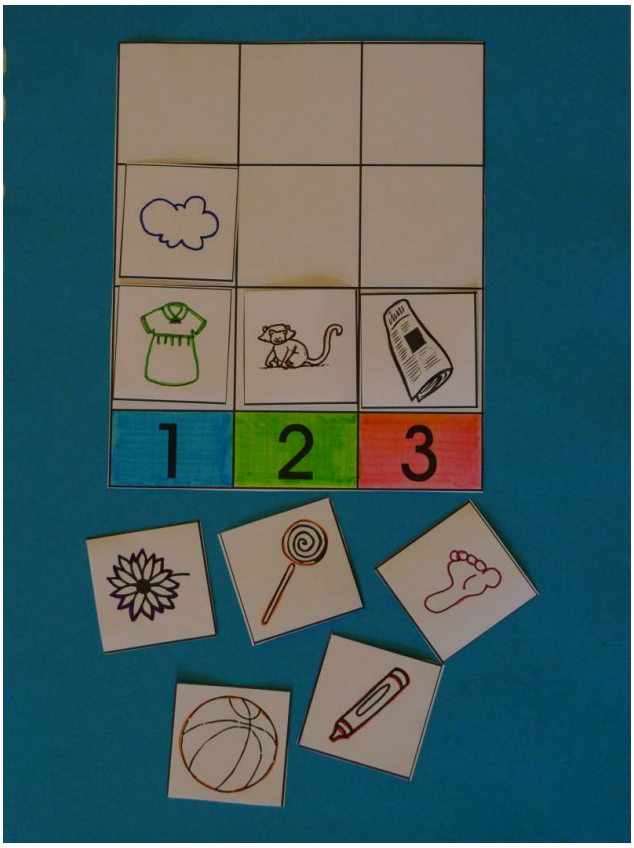


   Sentences: The plane is very fast (5). I like dogs (3). I can play basketball (4). Insects always have six legs (5). Yellow flowers are in the garden (6).

   This activity was adapted from instructional materials for teachers from the Florida Center of Reading Research (the Florida Center of Reading Research 2009).

2. **Syllable awareness:** segmenting syllables in words

   Instruction: Students select a picture, name it, and finger tap to count the syllables in the word. Students glue the picture above the corresponding number on the graph.

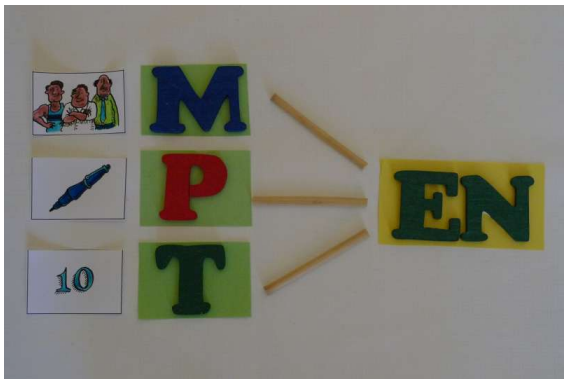


   Answer key: foot (1), dress (1), cloud (1), flower (2), monkey (2), crayon (2), basketball (3), lollipop (3), newspaper (3)

   This activity was adapted from instructional materials for teachers from the Florida Center of Reading Research (the Florida Center of Reading Research 2009).

3. **Onset-rime awareness:** spoken rime detection, manipulation with onsets and rimes

Instructions: Students listen to the teacher saying the words and are ask if they can hear any common parts. They use cards with fixed letters to represent onsets and rimes, they are asked to form words. They match the pictures to the words. Colour coding is used to help students to distinguish between onsets and rimes. Movable devices (cards with fixed letters) are used to manipulate letters to form words.



Words: men, pen, ten, rat, cat, hat

This activity was adapted from the book Dyslexia in the foreign language classroom (Nijakowska 20010, 157).

4. **Phonemic awareness:** matching medial phonemes in words

   Instructions: Place the green chart on a table. Scatter the pieces of the medial sound pictures around the chart. Taking turns, students select a picture, name the picture, and say its medial sound. They place it under the corresponding header card.

   Answer key: cat (jam, sad, dad, map, hat), hen (pen, wet, web, bed, ten), pig (sit, hit, big, zip, mix), dog (fox, hot, box, sock, mop), bug (gum, run, bus, tub, cup)

   The vocabulary items were taken from the Fun Fonix book 1 (Phonics worksheets on short vowels 2012).

Appendix R

Auditory discrimination activities

1. **Identification of Sounds**

   Children close their eyes and are asked to identify sounds that the teacher makes such as tearing a piece of paper, dropping/sharpening a pencil, opening a window/door, cutting with scissors or writing on the black board. Children say the word that represents the activity e.g. paper, a pencil, a sharpener, a window, a door, scissors and a black board.

   Modification: Sounds can be recorded and children are asked to identify them e.g. animal sounds, transport or household sounds.

2. **Auditory Attending: numbers, months of the year, days of the week**

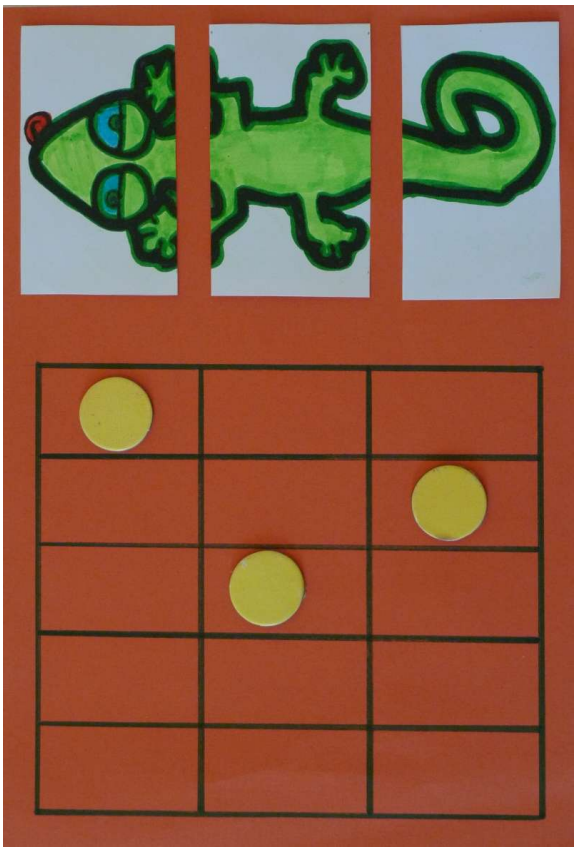
   Children close their eyes. The teacher claps their hands. Children are asked to count and say the number or the corresponding month or day.

   Modification: The teacher puts pictures on the board and writes numbers next to them. Children close their eyes. The teacher claps their hands. Children are asked to count, open eyes and say the name of the corresponding picture.

3. **Discrimination of Sounds**

   Children are asked to put up their hands when they hear a particular initial/middle/final sound e.g. Put up your hands when you hear a word that begins with /ð/. *Words:* e.g. tree, they, throw.

Modification: Provide students with the red student sheet and markers. Students determine if two words share the initial, medial, or final sound, and put the marker on the corresponding heading.



Words: e.g. 1st line: duck, dog (initial), 2nd line: pig, big (final), 3rd line: bike, five (middle), 4th line: soap, boat (middle), 5th line mop, ship (final)

This activity was adapted from instructional materials for teachers from the Florida Center of Reading Research (the Florida Center of Reading Research 2009).